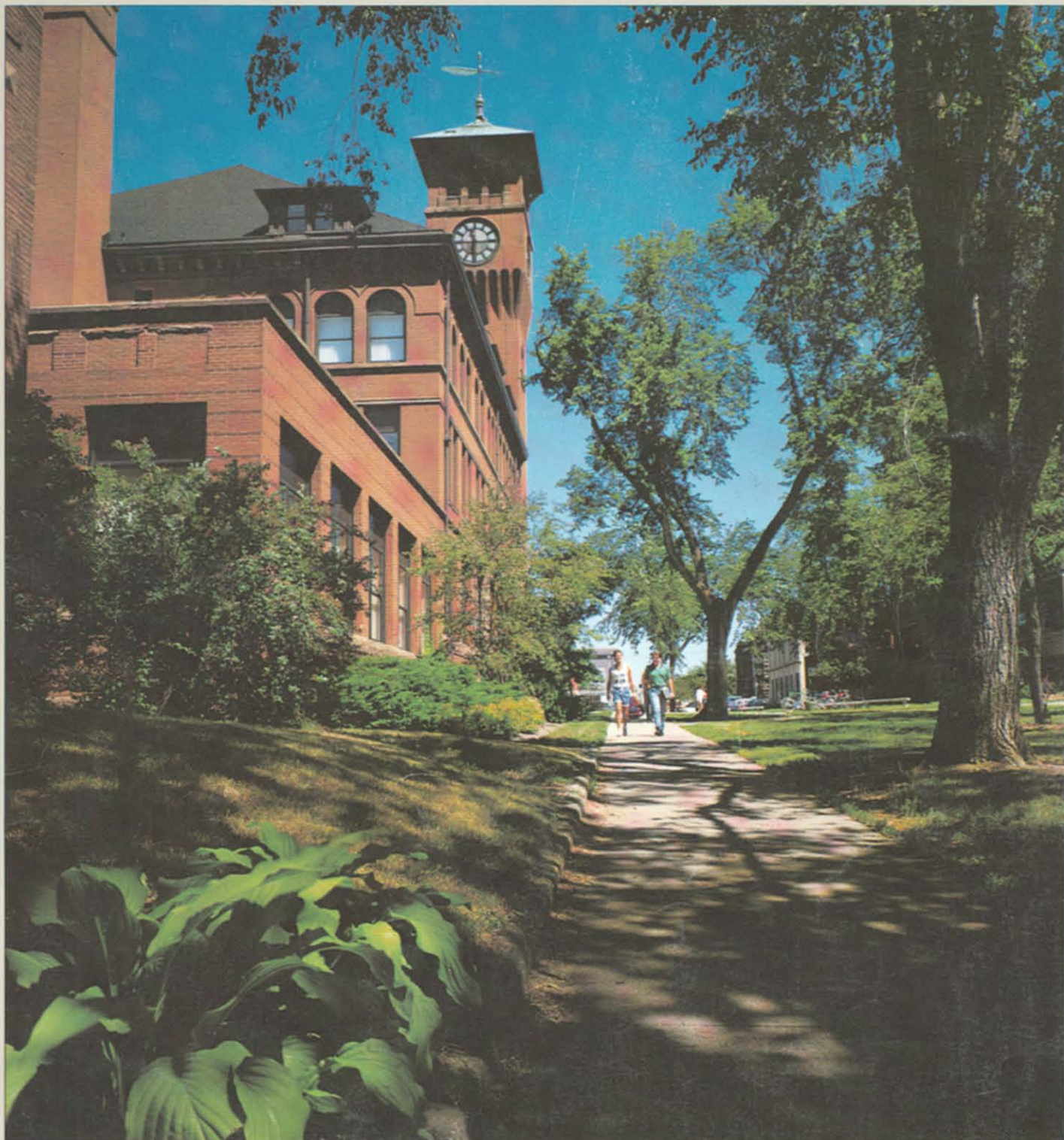


UNDERGRADUATE BULLETIN 1990-1992

University of Wisconsin-Stout



UNDERGRADUATE BULLETIN 1990-1992

**University of Wisconsin-Stout
Menomonie, Wisconsin**



An Equal Opportunity and Affirmative Action University

North Central Association of Colleges and Secondary Schools
National Council for Accreditation of Teacher Education

This bulletin was prepared according to the best information available as of May 1989. All information regarding fees, admission, graduation requirements and course offerings is subject to change.

For information about the university write to:
Director of School Relations
University of Wisconsin-Stout
Menomonie, WI 54751 or call: 715/232-1232

CONTENTS

1 General Information

- 2 The University**
- 4 Admissions**
- 6 Scholastic Standards**
- 8 Financial Information**
- 9 Housing Information**
- 10 Student Services**
- 12 Special Programs**
- 14 Teacher Education**

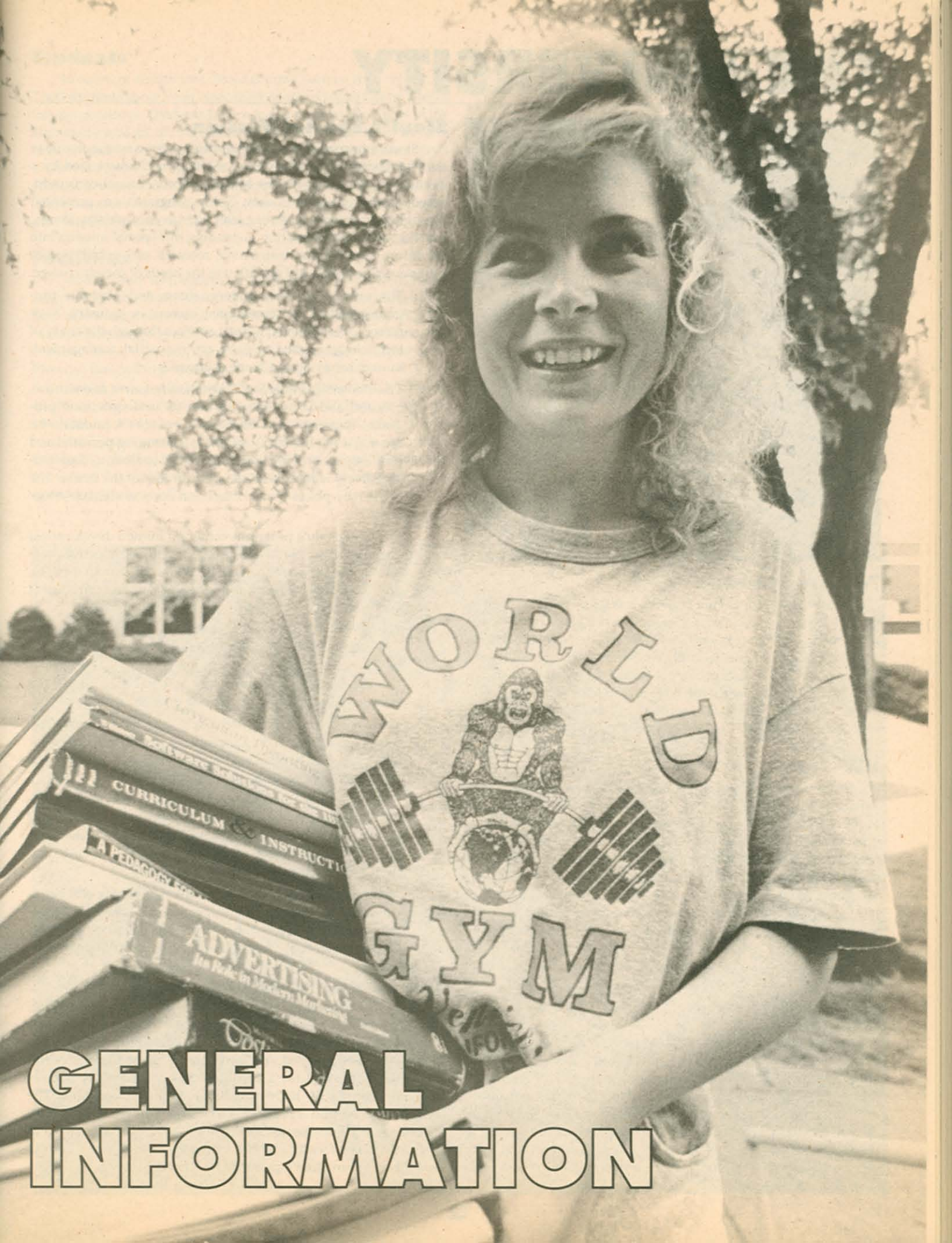
16 Programs of Study

- 18 Apparel Design/Manufacturing**
- 20 Applied Mathematics**
- 23 Applied Technology**
- 26 Art**
- 29 Art Education**
- 31 Child Development and Family Life**
- 34 Construction**
- 36 Dietetics**
- 39 Early Childhood Education**
- 42 Fashion Merchandising**
- 44 Food Service Administration**
- 46 General Business Administration**
- 49 Home Economics Educational Services**
- 52 Home Economics in Business**
- 55 Hotel and Restaurant Management**
- 57 Industrial Technology**
- 61 Marketing Education**
- 63 Psychology**
- 65 Technology Education**
- 66 Vocational Rehabilitation**
- 70 Vocational, Technical and Adult Education**
- 71 Specializations**
- 83 Minors**

85 Course Descriptions

130 Faculty, Academic Staff and Emeriti

137 Index



GENERAL INFORMATION

THE UNIVERSITY



To New Students

Welcome to Stout! This bulletin was prepared with you in mind. It includes information you need in reaching your decision to attend Stout. It describes major programs offered by the University and includes course descriptions. Fee, financial aid and housing information is also provided. You are invited to visit the campus. Discussions with staff members may be helpful in reaching your decision. If possible, write or call for an appointment to visit Stout. The number is 715/ 232-1232.

UW-Stout

Stout is one of 13 publicly supported universities in the University of Wisconsin System. It was founded as a private institution in 1891 by James H. Stout. A Menomonie industrialist and a man of great vision, he saw that students in America's developing industrial society needed a different kind of education, an education broader than that offered by the traditional curriculum. Since its founding, Stout has gained a position of national leadership in industrial, vocational and home economics education. Its programs in those fields are among the largest in the world. Although Stout is a career-oriented university, it has had the foresight to make the humanities and social sciences key parts of the total educational program.

Mission

As a basic step in the development of the newly merged University of Wisconsin System, in 1973, the Board of Regents adopted a broad mission for the System; a more specific one for the group of 11 institutions designated the University Cluster; and an individual mission statement for each university. Within the UW System, Stout is a Special Mission University. As such, it has one of the most specific missions found in universities. It provides for service to Wisconsin through focused universitywide programs in special mission areas.

Stout's Special Mission

Stout, as a special mission institution, serves a unique role in the University of Wisconsin System. Stout is characterized by a distinctive array of programs leading to professional careers focused on the needs of society. These programs are presented through an approach to learning which involves combining theory, practice and experimentation. Extending this special mission into the future requires that instruction, research and public service programs be adapted and modified as the needs of society change.

1. The university offers undergraduate and graduate programs leading to professional careers in industry, commerce, education and human services through the study of technology, applied science, art, industrial management, human behavior and home economics.
2. The University integrates the humanities; arts; and natural, physical and social sciences into its undergraduate programs. Experiences in these areas provide a foundation for the major field of study, promote continuing personal and professional growth, and prepare the student to deal constructively with issues and opportunities of the future. The University places special emphasis upon student development.
3. The University's programs center on human development and interpersonal relationships, efficient and effective practices in industry, commerce, education and human services, and the relationships of individuals to their environment and to society.
4. The University develops new educational strategies, provides opportunities to learn through involvement and experimentation, and creates a climate of inquiry. The University experiments with new instructional methods in the interest of improving the learning process.
5. The University expects scholarly activity including research, scholarship, development and creative endeavor that supports its programs at the baccalaureate level, its select graduate programs and its select mission.
6. The University, through outreach and public service, addresses the needs of society and contributes to the welfare of the state and to its economic and technological development, and cooperates with University of Wisconsin-Extension.
7. The University cooperates with other University of Wisconsin institutions; the Vocational, Technical and Adult Education system and other state and national agencies; and participates in statewide, national and international programs.

The Faculty and Academic Staff

Expertise in teaching is the concern of the faculty, the administration and the students. Because Stout has specialized in certain areas, a staff comprised of individuals nationally recognized in their fields has developed. All classes are taught by the faculty and academic staff except for a small number of laboratory courses which are taught by highly qualified graduate assistants. The student-teacher ratio is about 20-1 overall. Of a staff of 450, a high percentage hold doctorates while others hold special degrees in their fields. The faculty's commitment to provide extra help to students is one of Stout's proudest traditions.

Students

In terms of enrollment, Stout is not a local or state school. Its 7,400 students come from more than 30 states in the nation and 25 foreign countries. Students have a major voice in the affairs of the University and sit on important University committees. Besides regular and informal meetings with students, the University's Chancellor has "an open door policy." More than \$200,000 in student activity funds are administered by student government. There are more than 100 student clubs and organizations on campus, including national fraternities and sororities.

Facilities

Modern and well-equipped facilities mark Stout's 118-acre campus. Seven major classroom and laboratory buildings have been constructed or extensively remodeled since the early '70s. The Library Learning Center was completed in 1981, the Memorial Student Center was completed in 1985, and a major addition to the Physical Education building was completed in 1988.

Stout is proud of its laboratory intensive programs. More than 40 laboratories, encompassing more than 150,000 square feet, are available for study and research in the areas of electronics, power, industrial management, industrial design, industrial graphics, packaging, plastics, metals and woods. A newly remodeled facility providing laboratories for communication technologies was opened in January 1987.

A Home Economics building, opened in 1973, offers advanced research and laboratory facilities in the areas of food science and nutrition, dietetics, food service administration, hotel and restaurant management, interior design, fashion merchandising, clothing and textiles design, child development and family life, and home economics educational services.

The Applied Arts building houses one of the finest collections of studio and laboratory space in the Midwest, specifically designed to support programs in art, industrial design and interior design.

The Stout Vocational Rehabilitation Institute is a model facility. Research and practicum experience in work evaluation, placement services and professional assessments of clients referred by state agencies are among the many professional activities conducted by faculty, staff and students.

Located in the center of the city of Menomonie, adjacent to the downtown business district and Lake Menomin, Stout offers an attractive, convenient and accessible campus setting.

The Community

Located in scenic western Wisconsin, Menomonie has a population of approximately 13,000. The area's abundance of natural beauty, with numerous lakes, rivers and hills, provides many year-round recreational and sports opportunities. At the same time, major entertainment and cultural activities are available on campus, in the community and in the Twin Cities, about an hour away.



ADMISSIONS

Application for admission forms may be obtained by writing the Director of Admissions at Stout or from any Wisconsin or Minnesota high school guidance office. High school students should apply early in their senior year. Applications are accepted as early as September 15 of the year prior to the fall semester. There is no deadline for applications; however, when the selected major is full, no further admission is possible. Some majors are filled as early as November of the year prior to the beginning of the fall semester. Enrollment management requires that a major be named in the application.

Stout Admission Policy

Freshman applicants must satisfy the following minimum requirements to be considered for admission:

1. Graduation from a recognized high school or equivalent.
 - a. A recognized high school is one which either 1. is accredited by a regional accrediting association or state university, or 2. is recognized or accredited by a state department of public instruction or its equivalent.
 - b. An applicant who has not graduated from a recognized high school must provide evidence of satisfactory completion of the requirements for a high school equivalency certificate or a diploma from a recognized high school, school system or state department of public instruction based on the General Education Diploma (GED) examination, the Wisconsin high school equivalency examination or other established criteria.
2. A minimum of 16 high school credits is required. Four credits must be from English (including speech), two from mathematics, three from social science, and two from natural science; three additional credits from the preceding areas and two from the arts, computer science, foreign language or other approved high school classes are required. A high school credit represents a norm of five class periods per week in one field of study for a school year of 36 weeks. An applicant who has not graduated from a recognized high school must provide evidence of ability to begin college work. Such evidence may include General Education Development test scores, a high school equivalency examination or other established criteria, transcripts of course work completed in high school, high school rank-in-class before leaving, written recommendations, ACT/SAT scores or other evidence deemed appropriate by the University. High school equivalency applicants may not normally be enrolled unless they are a minimum of two years past their expected date of high school graduation. Applicants who lack the stated requirements but are deemed to merit special consideration will be considered on an individual basis. Stout requires the American College Test (ACT) of all freshmen under 21 years of age. The Scholastic Aptitude Test (SAT) may be substituted for non-residents. In rare circumstances, the ACT test requirement for freshmen applicants who require special and unique exemption may be waived.
3. Requirements for out-of-state students will be the same as those for resident students. If the number of qualified out-of-state students exceeds the ability of the University to accommodate them, the University shall determine the criteria for selection from among qualified applicants.

Stout Rank and Test Requirements

1. Priority admission (accepted when application is complete as long as the major still has space available).
 - a. High school rank at graduation in the upper 60 percent (40th to 100th percentile), or
 - b. The American College Test (ACT) standard composite score of 21 or higher (22 or higher on the Enhanced ACT). SAT may be substituted for out-of-state applicants.
2. Discretionary Hold. Those students ranking in 30th to 40th percentile in high school class, and/or with ACT scores 18, 19 or 20 (20 or 21 on the Enhanced ACT), will be placed into a discretionary hold. They will be considered for admission only if space is available in their chosen major on or about May 1. Experience has shown that not many spaces are available for this group.
3. Special Considerations. Applicants who do not qualify according to the above requirements may appeal for special consideration through the Director of Admissions. Evidence must be shown to indicate why an exception should be made. Changing the major to gain admission is not encouraged. Consideration will be given for reasonable requests.
4. Deferred Admission. Students who desire to work for a few years or enter military service may process an application for admission now to gain contact with Stout in the event an opportunity for part-time study arises elsewhere. This will enable the student to check on the transferability of course work and, at the same time, to keep aware of pertinent changes at Stout.

Transfer Students

Transfer students should apply for admission and forward an official transcript, from each post-secondary institution which they have attended, by early September for admission the following fall, and in early March for the following spring semester. Tentative admission can be given after a preliminary evaluation of transfer credits. An early application for admission permits registration for classes and financial aid clearance. Since enrollment limitations have made it necessary to deny some students each year, early planning and application are important.

Two-Year UW Centers and Accredited Colleges and Universities Normally, students with an overall "C" average at their previous institution(s) can be admitted. Students with less than a "C" average can be admitted under certain circumstances and should consult with the Director of Admissions for an evaluation. The University of Wisconsin System policy allows a maximum of 72-semester credits to transfer from two-year centers.

UW Center System Transfers

Stout has established a credit transfer system with UW Center System schools. For each degree program at Stout, a list of courses at Center System schools and equivalent courses at Stout is available. Center System counselors assist students who desire to transfer to Stout to select appropriate Center System course work. Students who complete one of these equivalency programs may have confidence that their work at the Center System school will be accepted on the appropriate degree program as equivalent credit at Stout. Center System students who plan to transfer to Stout should make application in September for admission in the following fall semester, and in early March for the following spring semester. Usually, students can take at least one year of study at a Center System campus--in some cases two--before transferring to Stout.

Wisconsin Technical Colleges

Degree Program Completion Systems Stout recently completed a credit transfer system in cooperation with Madison Area Technical College, Milwaukee Area Technical College and Nicolet College. Course sequences for each of Stout's bachelor's degree programs are tailored from course work at each of these three institutions and can be transferred to Stout with the knowledge that satisfactory course completion will result in equivalent, useful credit applicable to the specified degree program. Counselors at each of these institutions assist students in their course selection. Students in any one of these programs who desire transfer to Stout are encouraged to apply in September for admission the following fall semester and in early March for the following spring semester.

Non-College Parallel Program Stout will accept selected credits outside the college parallel program as long as a direct linkage can be shown between those courses and the student's program area of study at Stout. General education or liberal arts courses taken outside the college parallel program will not transfer. However, the student will be given every opportunity to earn credit by examination in those areas. A student transferring from a non-parallel program must complete an application for admission and forward official transcripts from each institution attended.

Adult Special Students or Veterans

Adults may be admitted even though they have not completed high school. An applicant who has not graduated from a recognized high school must provide evidence of ability to begin college work. Such evidence may include General Education Development test scores or a high school equivalency examination or other established criteria, transcripts of course work completed in high school, high school rank-in-class before leaving, written recommendations, ACT/SAT scores or other evidence deemed appropriate by the University. High school equivalency applicants may not normally be enrolled unless they are a minimum of two years past their expected date of high school graduation.

Any institution may conditionally or fully admit applicants who lack the stated requirements but are deemed to merit special consideration.

Senior Citizens

Wisconsin citizens aged 62 and over may audit all classes at Stout free of charge if space is available. Others who do not wish to receive credit for courses taken may also audit courses by paying half of the normal fee.

International Students

It is recommended that all potential international students have better than average academic records.

At the Freshman Level (first year) Students must send documentation consisting of certified copies of certificates, diplomas or degrees earned. These official records must be equal to U.S. high school (secondary education) graduation for consideration.

At the Transfer Level Post-secondary records must be certified correct by the former institution attended. All certified records must show courses taken and grades earned. No advance credit will be given unless the record shows evidence of satisfactory completion of the course being considered. Any alterations or irregularities in these records will result in the student being denied admission.

Initial transfer of credits is provisional and must be validated by satisfactory work in residence.

Additional records presented after the student has enrolled will not be considered for transfer.

English Language Requirement The Test of English as a Foreign Language (TOEFL) is required of students from all non-English speaking countries. The minimum score required to enroll full time is 500. Students with a TOEFL score of 450 to 499 will be required to enroll in English as a Second Language (ESL) courses to gain the competency needed before enrolling full time. A TOEFL score below 450 will result in admission being denied. For information on where and when to take the TOEFL, write to:

Test of English as a Foreign Language

Box 899

Princeton, New Jersey, USA 08540

Finances All international students must show evidence that they have adequate finances to undertake a degree program at Stout. As a condition of admission, international students whose sponsors have a history of delinquency in payment of fees must place on deposit an amount approximately equal to the institution's non-resident tuition and fees for a 12-month period, which includes two semesters and an eight-week summer term. Applicants to whom this applies will be informed upon receipt of application. Questions about this policy may be addressed to the Office of Student Business Services or to the Office of International Programs.

English as a Second Language Students

For admission to the university, second language American immigrant students are treated as other American students. For admission into English classes however, they are required to complete the English Placement Test (or other placement measure approved by the English department) or they must complete the English as a Second Language Placement Tests for placement into English as a Second Language courses.

Falsification of Records

Students are expected to provide the University with accurate information concerning their past, personal and educational history. The University policy indicates that any students who intentionally falsify or omit information given as part of their University record, become subject to automatic suspension.

SCHOLASTIC STANDARDS

Student Handbook

A Stout "Student Handbook" is issued annually to each student. The booklet contains helpful information related to academic information and campus policies, campus programs, rules and regulations, activities, organizations and services. It is an official document of the University and contains many of the details not found in the University bulletin.

Semester Credit

Credit is expressed in semester hours. A credit of one semester hour represents the satisfactory completion of the work of one meeting a week for a period of one semester. A course having five meetings a week will therefore give five semester hours of credit. In order to receive a degree, the student not only must gain the required number of credits in the course being pursued, but also must attain a certain standard of scholarship.

Credit Registration and Overload Policy

Courses are designed and graduation requirements are established so that a normal semester credit load is 16 or 17 credits. Students should only register for those classes they fully intend to complete. Students may not register for classes which conflict with other class(es).

Undergraduate students, with the exception of graduating seniors, will be restricted to 16 credits during the early registration. Once registration is completed, students may add credits up to a maximum of 20 during the add/drop period.

Students seeking a waiver of the 20-credit limit may appeal to their program director. If approved, the signed overload permit must be filed in the Registration and Records office each semester.

The maximum credit load for summer school for undergraduate and graduate students is one credit per week during the session(s) for which the student is enrolled. Courses in which the number of credits equals the number of weeks the course is offered precludes enrollment for additional credits during that time. Requests for an exception in special circumstances should be transmitted to the appropriate program director.

Add/Drop Policy

Careful planning should lead to schedules for students which are sound individual programs. The majority of students should not have a need for adding or dropping once classes start. Occasionally, conditions exist which do not permit students to carry through their course plans.

The following policy serves as Stout's procedures for adding or dropping classes:

Students are expected to complete courses for which they register. Students who wish to adjust their class schedules may add or drop classes before the end of the second week of semester classes and before the end of the first week of quarter classes. Drops made during the first two weeks of a semester course or the first week of a quarter course will not appear on a student's transcript. If students deem it necessary to reduce their program after the normal (two week) add/drop period, they should do so as early as possible. A mark of "WS" or "WU" is given by the instructor and recorded on the student transcript for a course dropped after the add-period of a semester or quarter course but before the midterm date. After the midterm date, any withdrawal from a course is recorded as an "F". If extenuating circumstances warrant other consideration, an appeal may be

made to the instructor of the course. Students who register for a course but do not attend the class and do not officially withdraw are given a mark of "F". Students who do not attend the first class meeting of a course, or who do not notify the instructor or department chairperson that they will be absent for special reasons, may at the instructor's option, be dropped from the course if, and only if, other students are waiting to enroll at that time.

Procedure for Withdrawal from Stout

Withdrawal should be undertaken only after serious consideration. Persons intending to withdraw must schedule an exit interview at the Student Services office and complete a withdrawal form. A student who fails to withdraw officially from the University will receive a grade of "F" in all courses being pursued. Withdrawals after the midpoint of a term or course will generally result in "F" grades. (See grading policy in Student Handbook.)

Grade Point and Symbols

Grade	Grade Points
A	= 4.00
A-	= 3.67
B+	= 3.33
B	= 3.00
B-	= 2.67
C+	= 2.33
C	= 2.00
C-	= 1.67
D+	= 1.33
D	= 1.00
D-	= 0.67
F	= 0.00
O	= Outstanding (no grade points)
S	= Satisfactory (no grade points)
U	= Unsatisfactory (no grade points)
W	= Withdrawal from school before midterm or grade assigned by registrar for improper drop
I	= Incomplete
CR	= Pass (no grade points)
F	= Fail
IP	= In Progress
AU	= Audit - no credit awarded
NC	= No Credit
WS	= Withdrawal - Satisfactory Work
WU	= Withdrawal - Unsatisfactory Work

Suspension and Probation

Grade point requirements for graduation vary by major selected. A lower grade point average than required by the major, although it may not result in probation or suspension, cannot be construed as satisfactory progress toward a degree. Minimum acceptable standards for retention are defined as follows:

1. First semester freshmen students will be placed on probation if they achieve a grade point average less than 1.8 at the end of the semester. They will be suspended if their grade point average is less than 1.0 for the semester.
2. Second semester freshmen will be placed on academic probation if their cumulative grade point average at the end of the semester is less than 1.9. They will be suspended if their grade point average is less than 1.0 for the semester.
3. Second semester sophomores or upper division students will be placed on academic probation if their cumulative grade point average at the end of the semester is less than 2.0. They will be suspended if their grade point average is less than 1.0 for the semester.
4. Students with two consecutive terms of probationary-level work will be dismissed unless they have a semester grade point average of 2.5 or higher.

A student who has been declared academically ineligible to continue may request a hearing to appeal.

Requirements for Graduation

The semester credit hours required for graduation vary slightly with the major and are stated under the program of study for each major. The normal time required for the completion of these requirements is slightly more than four years and results in the awarding of the bachelor of science, bachelor of arts or bachelor of fine arts degree. Meeting the requirements for graduation is a responsibility of the student. To fill the minimum residence requirement, the last 32-semester hours of credit (64 grade points) must be earned in residence at Stout. Candidates for degrees are required to file an Application for Degree card with the Office of Student Records one semester prior to graduation.

Ethnic Studies Requirement

According to the UW System Design for Diversity plan (April 1988), all students are expected to take an organized program of instruction on race and ethnicity as part of their educational experience. Specific means by which this requirement will be satisfied is currently under review at Stout. An implementation date for the requirement will be publicized. Students entering Stout before that date will be encouraged, though not required, to satisfy the new requirement.

Graduation with Honors

In each graduating class, the selection of students for honors is based upon scholarship. Upon completion of a student's undergraduate work, a minimum cumulative grade average of 3.200 in 60 or more credits must have been earned. The designations Cum Laude (3.2 - 3.499), Magna Cum Laude (3.5 - 3.799) and Summa Cum Laude (3.8 - 4.000) are used. For commencement purposes, the cumulative GPA earned at the end of the semester preceding the commencement ceremony will determine recognition at the commencement ceremony. However, honors will be officially determined at the time of final graduation checkout. A transfer student who has from 32 to 59.5 credits earned in residence will be considered for honors if the student's prior school(s) records met or exceeded the appropriate standard. Honors will be listed on the student's transcript and will appear on the diploma.

Chancellor's Award

Universities recognize many different kinds of achievement, all important parts of a total education. Since scholastic achievement is the basic purpose of higher education, academic excellence is acknowledged by the University through the Chancellor's Award. Undergraduate students who receive a semester grade point average of 3.5 or above on 12 or more credits qualify for the award. A special Four Star Recognition Award will be given to students who attain a 4.0 average.



FINANCIAL INFORMATION

Since the catalog must be prepared far in advance, all tuition and fees, room and food rates, and other charges are subject to change without notice. Students are expected to pay all fees according to the procedure outlined in the Student Handbook. Failure to pay fees may result in suspension. Stout offers an opportunity to pay fees in installments. This program requires \$200 plus any past due amount or total payment at registration, whichever is less. The balance is due in three (3) equal monthly installments. The fees on the following schedule incorporate the usual student costs such as textbook rental, Student Center, student activity and health fees. However, the schedule does not include lab or material fees charged in some courses.

Semester Costs

Undergraduate fees are set by the University of Wisconsin Board of Regents and are subject to change. Semester fees for undergraduate students registered for 12 or more credits are:

Resident:	\$ 887.36
Minnesota Resident:	\$927.36
Non-resident:	\$2,568.36

All undergraduate students who enroll for more than 18 credits will be assessed a per credit fee for those credits. Additional changes to the tuition and fee schedule are anticipated for 1990-91.

Minnesota Students

New students at Stout must submit a reciprocity application to Minnesota before the end of the intended semester. Approval takes up to four (4) weeks. If approved for reciprocity, the student will be charged at the Minnesota resident tuition rate. Applications are available at the Financial Aid office and the Office of Student Business Services. The State of Minnesota has indicated that "Reciprocity benefits will not be granted retroactively" and that "each student is responsible for the application process." Therefore, each new student must complete and mail a correct, signed and notarized application prior to the last day of the semester. Apply early to avoid complications. Students that have been in attendance at Stout and have earned credits during the previous academic year will automatically have reciprocity renewed by the State of Minnesota.

Special Interest

Special interest students should inquire about the fee structure as it relates to them at the time of registration. Generally, a special interest student is an individual who does not expect to apply the earned credit toward a degree at Stout.

Graduation Fee

Upon completion of 105 semester hours of credit toward the bachelor's degree, each individual will be billed \$30 for the graduation fee. This fee meets the need for the diploma cover and other costs and accessories that go with the commencement exercises. It does not cover the cost of the cap and gown. All students are assessed this fee whether or not they attend commencement exercises.

Refund on Fees

Withdrawal from semester courses generate refunds based on the following schedule: first week of classes, 100 percent; second week, 80 percent; third week, 60 percent; and fourth week, 40 percent. After the fourth week, there is no refund. Refunds for room and food service charges are based on the date of withdrawal.

Unpaid Obligations

Failure to meet financial obligations is a serious matter. Therefore, unpaid obligations of any nature due and payable by a student to Stout constitute valid reason for suspension from the institution. Students will not be allowed to register or receive transcripts until delinquent accounts are brought up-to-date.

Financial Aid

The primary purpose of financial aid is to provide assistance to financially needy students who, without such aid, would be unable to attend college.

The basic premise for all need-based financial aid programs is that the primary responsibility for financing a student's education rests with the student and the student's family. Federal and state aid is intended to meet those educational costs which remain after the student's resources and a reasonable expected contribution from the student's parents have been taken into account. To determine student need and award aid consistently and fairly, parents and students are required to fill out a financial statement listing their income, assets and liabilities. On the basis of this financial statement, the financial aid officer can determine the need, which is the amount parents and students can be expected to contribute subtracted from the cost to attend Stout for the year. Students are expected to contribute a portion of their assets as well as a percentage of their previous year's income.

Financial aid must be applied for annually. Financial assistance is awarded for the entire academic year. Each applicant is considered for all types of aid for which the applicant is eligible according to state and federal regulation. Financial aid categories are grants, work or loans.

Financial aid awards are based on full-time status, 12 credits or more. Students must consult with the Financial Aid office if planning to carry less than a full-time credit load as an adjustment will have to be made in the aid award.

Applicants are encouraged to submit financial statements by April 15 of each year. Applications received after that date are processed on a first come, first served basis. Applicants whose forms are in early are notified whether or not they are eligible for financial aid between June 1 and June 30.

Financial Aid counselors are available for consultation. Stop at the Financial Aid office, 210 Bowman Hall, if planning to visit the campus. Please call (715) 232-1363 or write for an appointment. More comprehensive information on financial aid is available on request from the Financial Aid office.

HOUSING INFORMATION

Residence hall living is a meaningful part of a student's life at Stout. With the help of a professionally trained staff, students achieve their goals through a variety of social, educational and recreational activities. The University provides residence hall accommodations for approximately 2,900 students.

UW System policy requires freshmen and sophomores (59 credits or less) to live in the residence halls as long as space is available. Exceptions are made for veterans, married students and students living with their parents.

Students may and are encouraged to apply for residence hall accommodations immediately after being accepted to the University. An application card for the residence halls accompanies the letter of acceptance sent to the student by the Admissions office.

Contracts for residence hall rooms are sent to the students in the order in which applications for rooms have been received. Normally, students applying for residence hall space prior to March can be accommodated for the next academic year. A \$75 security deposit is required with each contract. This deposit is applied against the final payment for the second semester. Students will be notified of the date rooms may be occupied prior to classes beginning each semester. The contract is valid for the entire academic year.

Several special interest floors such as non-smoking, non-alcohol, quiet study and upperclassmen are available. There is also a hall which accommodates continuing students and non-traditional students only. Requests for the above accommodations may be made when the residence hall contract is submitted.

Each room is furnished with two single beds and innerspring mattresses, dressers, study tables, chairs and bookcases. A touch-tone telephone is provided in each room. The rooms are approximately 11 feet by 15 feet and all rooms are carpeted. Radios, stereos and television sets are permitted in the rooms provided the students comply with the regulations for the use of this equipment. Television sets are also available for general use in the main lounge of each building. Small refrigerators are available on a rental basis.

All residence hall students contract for their meals with the Residential Dining Services. A wide variety of dining plans is available. Microwaves and coffee pots, hot pots and popcorn poppers with unexposed elements are permitted in student rooms. Extensive cooking in student rooms is not permitted. Fully equipped kitchens are available in each residence hall.

The Stout Student Association office attempts to maintain a list of off-campus housing currently available. These are available upon request. Those planning to reside off campus may find it useful to visit Menomonie to secure the type of housing desired.



STUDENT SERVICES



New Student Orientation

A summer orientation and registration program provides new freshmen and their parents an opportunity to become better acquainted with the campus. During these scheduled one-day visits, parents become involved in a variety of orientation activities while students are provided with important information about degree programs, career opportunities and academic advisement in course selection. The students develop the fall semester class schedule. Transfer students are also invited to campus during the summer to receive academic advisement and develop a class schedule. During the first few days of the fall semester, new students participate in additional orientation activities.

Memorial Student Center

The Memorial Student Center is intended to be the community center of the University for students, faculty, staff, administration, alumni and guests. As a member of the Association of College Unions International, the staff has close communications with other college student centers in an effort to share ideas that add to further the concept that a student center is a home away from home.

As the "livingroom," the Student Center provides for services, conveniences and amenities for members of the University community. It is a place for getting to know and understand one another through informal association outside the classroom.

Major operations within the Memorial Student Center include the University Bookstore, three dining service facilities, recreation center, service/information center, and student activities administration.

You are invited and encouraged to use all of the facilities, services, programs and activities offered by the Memorial Student Center. For more information, call Ext. 1431.

Student Activities

More than 100 student organizations and activities are represented on campus. They share a common purpose in providing opportunities which will help meet the extracurricular needs of students. Such diverse interests and organizations as band, drama, yearbook, newspaper, forensics, chorus, religion, politics, recreation, fraternities and sororities offer experiences which allow students to continually develop their interests. The University also has a complete recreation and intramural program for men and women.

Learning Resources

Learning Resources provides services to assist instructional communications and the learning process. This service is divided into five functional units.

The Library Learning Center has an integrated audiovisual and print resource collection consisting of 200,000 volumes; more than 1,500 periodicals, 9,000 audiovisual items and 737,335 microformats. An on-line public catalog (LS/2000) features computerized searching, circulation, acquisition purchasing, management data, and on- and off-campus access. An interspersed stack-seating arrangement of 1,060 user stations is featured. Specialized in-depth collections of national prominence in Stout's major fields of study and a complete collection of ERIC (Educational Resource Information Center) documents on microfiche are maintained. On-line computerized literature searches for 300 specialized databases and electronic access to several databases such as ERIC, PsychLit and InfoTrac are offered free of charge to students and faculty. The library is open 95 hours per week. A 50 work-station campus computing laboratory is also available in the library. The facility is equipped with microcomputers, a hard-disk server, printers and terminals connected to time-sharing computers.

Academic Computer Services provides time-sharing computer support for instruction and research. Resources provided include multiple language processors, customized software packages for selected courses, test-scoring and analysis, and several general statistical packages. A Digital Equipment Corporation VAX-11/780 computer is available to faculty and students for on-line computation, with 140 terminals located in all classroom buildings, the Library Learning Center and residence halls. An electronic switch allows the same terminals to access multiple computers in Academic Computing, the Library and the Technical Computer Services Center. Dial-up access is provided to the switch for service from remote sites with personal computers and modems. All services are provided free for instructional support.

Instructional Technology Services is housed in the Communications Center. Professional media specialists provide Stout staff and students with consultation in areas of instructional development, media design, utilization, media equipment and facilities, and production of still and motion picture photography, graphics, instructional television, and audio recording.

The Stout Teleproduction Center produces programs for broadcast on the Wisconsin Public Television Network for satellite origination, and for other state educational organizations and non-profit agencies.

Telecommunications Services provide the campus with voice, video and data information systems design, installation, and maintenance services. The unit also maintains and repairs campus computing, audiovisual and television equipment.

Counseling Center

Counselors are available to each University student to assist in deriving the maximum benefit from the student's university career. Counseling provides a means to continue growth in self-understanding and in understanding others. Many decisions regarding educational, vocational or personal-social choices can more effectively be made with the help of a counselor. Counseling, psychological testing, alcohol and drug abuse programming, and an extensive college catalog and vocational information library are available. Use of the Center is voluntary and free of charge to Stout students. The vast majority of users of the services of the Center are

experiencing "normal" kinds of concerns. Most students in the course of their college experiences will encounter some problems with which they could benefit from the help of an experienced, understanding person. The Center's hours are 8 a.m. to 4:30 p.m., Monday through Friday, and evening counseling can be arranged. The Career/Educational Information Resource Center, the Non-traditional Student Drop-in Center and the Biofeedback Laboratory are open until 9 p.m., Monday through Thursday. Appointments to see a counselor may be made by calling Ext. 2468, or by directly contacting the Center.

Academic Skills Center

The Academic Skills Center offers services to any students at Stout interested in improving their reading, writing, spelling and study skills. A class, 421-280, Reading Improvement and Study Skills, is available; it is offered on a semester basis for two credits. In addition, students may come to ASC for individual academic assistance. Support services are available for learning disabled students. Individualized self-instruction materials are available in the areas of reading, reading rate, memory, comprehension, spelling and vocabulary. Spelling instruction is offered each quarter in small groups. Phone inquiries may be made at Ext. 1381 or Ext. 1125.

In addition, the Center coordinates the Volunteer Tutoring Program, offering help in most classes on campus. Persons interested in volunteering to tutor or requesting a tutor should stop in at the Center. For further tutoring information, call Ext. 3086.

The Academic Skills Center is located in Room 201 of the Library Learning Center.

Student Health Services

All students enrolled at Stout are eligible for care at the Student Health Services. Clinical and education programs are funded by the student health fee which is included in the tuition and fee payment. Services include accident and illness care, health maintenance, allergy injections, lab services, contraceptive counseling, and health education programming. Appointments are encouraged and can be made by calling Ext. 1314. Services are available from 8 a.m. to noon and 1-4:30 p.m., Monday through Friday during the period when classes are in session. Health Services are not available during the summer. If the need for urgent help is required during hours when the Health Services is closed, contact Red Cedar Clinic, 235-9671, or the Myrtle Werth Medical Center, 235-5531. Any services obtained outside the Health Services is paid by the student or insurance.

Veterans Service

Special assistance is available to veterans by the Registration and Records office. This office provides veteran students with current information on veteran's affairs, coordinates special educational programs for veterans and maintains liaison with the Veterans Administration, Department of Veterans Affairs and the County Veterans Service Officers. All veterans receiving assistance must file the appropriate forms with this office to be officially certified to receive benefits.

Student Support Services - ASPIRE

ASPIRE is a federally funded program that provides support services to students. The project offers activities and programs to aid individuals in achieving academic success. Individual assistance and tutoring programs in academic areas, along with educational and career development activities and services for students with disabilities (including learning disabilities), are offered. Spe-

cial programs for those experiencing academic difficulty are also available. ASPIRE staff includes a Reading/Writing Specialist, Study Skills Specialist, Tutor Coordinator, and Personal/Academic Advisers. Interested individuals should contact a member of the ASPIRE staff at Ext. 2995 or 2996. ASPIRE is located in Room 128, Bowman Hall.

Ethnic Services Center

The Ethnic Services Center is a support service offered to students of American ethnic minority backgrounds. The population includes African-Americans, Native Americans, Hispanics and Southeast Asians. Individual as well as group assistance is offered to these students and includes academic advising, personal counseling and career direction to name a few. Workstudy or state payroll is available for 10 to 17 students through the Peer Counseling Program. Cultural workshops are also offered numerous times throughout the academic year. For more information, contact the Center at Ext. 1096 or Room 206, Bowman Hall.

Students with Disabilities

The Office of Services for Students with Disabilities provides a variety of services such as textbooks on tape, referrals to campus and community resources, self-advocacy skill building, a Learning Disabilities Specialist, advisement, registration assistance, specialized equipment and accessibility information. Students who may require services related to their disability should contact the office at least eight weeks prior to the beginning of the semester. For more information, contact the office at 203 Administration building or call Ext. 1181.

Intercollegiate Athletics

The athletic program contributes to the total educational program of the University. It emphasizes general educational values for the participants and provides a laboratory for those who are in the coaching certification program. Stout is a member of the Wisconsin State University Conference, the Wisconsin Women's Intercollegiate Athletic Conference, the National Association of Intercollegiate Athletics and the National Collegiate Athletic Association-Division III. The University sponsors seven women's and nine men's varsity teams. Women's teams include basketball, cross country, gymnastics, swimming, tennis, track and volleyball. Men's teams are baseball, basketball, cross country, football, golf, swimming, tennis, track and wrestling. The "S" Club is a campus organization for men and women who have earned letters in intercollegiate sports.

Placement Service

The University maintains a full-time Career Planning and Placement service for all students and alumni. Staff members assist students in evaluating abilities and planning for the future. Placement of Stout graduates continues to be a major emphasis of the University. Three full-time Career Planning and Placement counselors are available. Career Days, campus recruitment, workshops and one-on-one counseling are just a few of the services. Statistical reports are available on the employment of past graduates. Graduate students should also register with the office. Students registered with the office should report their employment status after graduation.

SPECIAL PROGRAMS

Stout offers students opportunities to earn credits outside the classroom as well as in. Certain programs allow students to earn credit by examination. Field Experience and Independent Study should be investigated by students for the purpose of earning credit. These special programs and others are outlined below.

Cooperative Education Programs

Cooperative Education is an option within the curriculum at Stout. Currently, students in a variety of degree programs in the Schools of Industry and Technology, Home Economics, and Liberal Studies may be eligible to enroll. Co-op is a business/industry experience related to a student's academic program differing from field experience and internship as follows:

1. Alternating or parallel periods of classroom study and employment are possible,
2. A formal agreement is developed cooperatively by the instructor, student and employer,
3. Site experience is supervised, evaluated and paid,
4. Co-op can entail recurring (more than one) work/study periods, each one building and expanding on the previous,
5. A more intensive involvement with business/industry is cultivated: Co-op is a "partnership" among the school, student and employer.

Information on Co-op and the availability of Co-op job sites can be obtained from the Office of Cooperative Education or the associate dean's office housing the degree program.

Business and Industry Internships

Business and industry internships are available through the school which provides the major. Some internships are of the summer type and only three months, while others are at least six-months long. The minimum requirements are usually stated as junior or senior standing, candidates are company screened and the position is para-professional. Contact any school dean's office for details about the program in that school.

Field Experience Program

Students are encouraged to obtain part of their college education off the Menomonie campus through the Field Experience program. This program allows students to receive academic credit for learning related to their major or minor, while employed in an approved off-campus field position. Most students use their summers to enroll in this program, but part-time work may also be permissible. Information on field experience can be obtained from the dean's office in which the student's major is housed.

Industrial Work Experience

A maximum of 24-semester hours of technical credit may be earned through examination by those students who have completed three years of skilled occupational experiences beyond the learning level of a trade. Students with less than this amount of experience may request examination in specific technical courses upon presentation of evidence of appropriate work experience in that area. Students desiring credit for skilled occupational experiences should present evidence of the required amount of work to the program director of Vocational, Technical and Adult Education in the School of Industry and Technology shortly after registration to allow special program consideration.

Independent Studies Program

Students at Stout may design a limited number of individual courses for credit through the University's independent study program. This program is open to students during any enrollment or course-add period. Students initiate the process by obtaining an application for independent study from the office of the associate dean of the school in which this independent study is to be offered. The student then completes the form by identifying the course objectives, methods and evaluation process to be used and submits it to an independent study coordinator for further processing and approval. Credits are awarded on the basis of expending a minimum of 48 hours of effort for each credit and an evaluation of the extent to which the stated objectives were met. Independent study topics are different from existing courses. Approved independent study courses are completed by the student in consultation with an assigned independent study coordinator. The coordinator provides counsel and aid to the student in achieving the approved desired learning objectives.

Students should consult in advance with their program director to find out whether the proposed independent study may be used in the degree program.

Credit by Examination

Stout has several procedures which permit students to demonstrate their competence through externally and internally developed examinations. External examinations include the College Level Examination Program (CLEP) and the Advanced Placement program (AP). For further information or external examinations, inquire at the University Counseling Center.

Credit by examination is also possible under "Test Out" procedures developed by various Stout departments. For further information on such examinations, ask at the appropriate school or department office.

In all cases, students testing out of a course by examination will be charged a testing fee.

Summer Session

Stout conducts a 10-week summer session with classes varying in length from one week to eight weeks. Students may register each Monday of the week their classes are scheduled to begin. It is possible to earn 10 credits during the 10 weeks of summer session. The Summer Session Bulletin is available after March 1. A copy will be sent on request. Pre-enrollment is encouraged in April and May.

Pigeon Lake

The UW System sponsors summer programs at the Pigeon Lake Field Station near Drummond in Bayfield County of northwestern Wisconsin. Station offerings include undergraduate and graduate courses in field biology and in mapping, outdoor education, recreation, counseling and art. Class sessions vary from one to three weeks in length with some classes weekends only. Credit earned at the Station is accepted as residence credit at Stout. The Field Station is located in a natural outdoor laboratory among the lakes, streams and forests of relatively unspoiled portions of northern Wisconsin. For additional information, contact the Registrar at Stout or the director of the Pigeon Lake Field Station, UW-River Falls.

Continuing Education

Stout has a tradition of providing educational opportunities on a local, regional and statewide basis as a commitment to the concept of life-long learning. The campus is involved in several areas of non-traditional higher education. These areas include both credit and non-credit activities as well as conferences and workshop experiences of a unique nature.

Stout's program in home economics, industrial technology, industrial arts and vocational rehabilitation are among the largest in the world. Off-campus courses are drawn from these strengths as well as family counseling, early childhood education and numerous other fields of study and interest.

The coordination of all off-campus activities is the responsibility of the Office of Continuing Education and Summer Session. Off-campus credit and non-credit opportunities include:

1. Off-campus courses offered in the rural local service area of Stout, as well as statewide, based on our special mission within the UW System with a particular focus on vocational-technical education.
2. Teleconference courses mediated via the use of telephone network coordinated by our campus.
3. National satellite videoconferences.
4. Television courses via ETV Network.
5. Weekend workshops.
6. National, regional and state conferences.
7. Weekend college.

Opportunities for Study Abroad

Increasing the international dimension of Stout's programs is one of Stout's continuing thrusts. The Office of International Programs has developed relationships with selected international institutions to assist students in arranging for study abroad. Formal cooperative agreements currently exist with several international institutions, including the following:

United Kingdom

Northeast Wales Institute of Higher Education, Wrexham
University of Wales, Aberystwyth
University of Wales, Cardiff
Ealing College, London
Middlesex Polytechnic University, London
Wisconsin in Scotland Study Center, Edinburgh

People's Republic of China

Beijing Institute of Light Industry, Beijing
Northwest Institute of Light Industry, Xian Yang

Mexico

Monterrey Institute of Technology and Higher Studies, Monterrey

Spain

Spanish American Institute of International Studies, Seville

Other overseas study, travel and work opportunities may be arranged.

Between 150 and 250 international students from more than 25 nations study at Stout each year. This provides many opportunities for those who are not able to study abroad to communicate with students from other cultures and learn from them. Undergraduate students are encouraged to interact with international students and to study abroad as part of their education at Stout.

For additional information, contact the Office of International Programs at Ext. 1896.

The American College in London

A semester at the American College in London provides supplemental learning experiences to students enrolled in the fashion merchandising and apparel design/manufacturing programs. This four-year college offers an opportunity to live where there are long traditions related to textile, apparel design and merchandising. One of the major retailing centers in the world, London provides opportunity for the study of a variety of businesses and exposure to other cultures.

The Graduate College

The Graduate College, a unit of the division of Academic Affairs, has responsibility for graduate education in the University. It administers graduate admissions, records, policies and other procedures relating to graduate students. Graduate programs are administered as follows:

School of Industry and Technology

Industrial/Technology Education
Management Technology
Media Technology
Safety
Vocational Education
Industrial and Vocational Education (Ed.S.)

School of Home Economics

Food Science and Nutrition
Home Economics
Hospitality and Tourism

School of Education

Guidance and Counseling
Marriage and Family Therapy
Education
Education - School Psychology
Vocational Rehabilitation
Guidance and Counseling (Ed.S.)

Dual Undergraduate - Graduate Enrollment

Undergraduate students in their last term of enrollment who are carrying 14 or fewer undergraduate credits may wish to initiate graduate study in one of Stout's graduate programs. Application for dual enrollment must be made to the Graduate office. Upon approval, initial enrollment in a graduate program may be concurrent with the final enrollment for the undergraduate degree.



TEACHER EDUCATION

Professional Teacher Education

The professional teacher education programs at Stout are administratively housed in the respective schools. Complete curriculum for specific teacher education programs are found elsewhere in this bulletin under:

Art Education

Early Childhood Education

Home Economics Educational Services

Technology Education

Marketing Education

Vocational Rehabilitation-Special Education

Vocational, Technical and Adult Education.

The officially designated coordinating unit for the various teacher education programs is the Professional Education Council which is convened by the dean of the School of Education and Human Services and has appropriate representation from contributing programs. The Office of Teacher Education serves a facilitative function for the Professional Education Council and exists to support department and programs preparing education personnel. This office serves as a resource center for students, faculty, program directors and administrators; maintains appropriate student records; and serves as a clearinghouse for the Professional Education Council, accrediting agencies and public agencies.

Undergraduate Teacher Education

The following procedures must be followed to ensure graduation and certification in a professional education program. If, after reading this section, you have questions, please contact your program director or Director of the Office of Teacher Education, Ext. 1088, 342 Vocational Rehabilitation building. The information included in this document regarding teacher certification was correct at the time it was submitted for publication. Periodic changes in teacher certification requirements made by the Wisconsin Department of Public Instruction may require changes in requirements, policies and procedures. It is your responsibility to contact the Office of Teacher Education to make certain you have the most current information so that you can be assured that you are pursuing a program plan that will allow you to be certified.

If you are enrolled in an undergraduate teacher preparation program, you must proceed through the following three steps as you prepare to become a teacher.

1. Admission to Advanced Standing
2. Admission to Student Teaching
3. Teacher Certification

Admission to Advanced Standing

Beginning in the freshman year, each student enrolled in a teacher education program should be preparing for admission to advanced standing. In addition to possessing expertise in a subject area, an effective teacher has fundamental skills and competencies needed in any teaching field. Admission to advanced standing is intended to ensure that teacher education students meet certain basic standards of the profession. These professional standards must be met by all students in a professional teacher education program. Application for admission to advanced standing must be made after the completion of at least 40 credit hours but prior to enrolling for the term which will result in completing more than 80 credit hours. The Application for Admission to Advanced Standing in Professional Teacher Education can be obtained from the Office of Teacher Education.

Requirements for Admission to Advanced Standing:

1. Communications:
 - a. College English - Teacher education students must have earned a grade of at least a "C" (2.0) in English 326-101 and 326-102 or 321-111 and 326-112.
 - b. Speech proficiency - Teacher education students must have earned a minimum grade of "C" (2.0) in 391-100, Fundamentals of Speech. This requirement may also be met by successful completion, grade of at least a "C" (2.0) of the written and oral portions of "The Speech Department Credit by Examination Procedure" for 391-100, or by successful completion of a second speech course selected from the following: 391-200, 391-206, 391-508 or 391-512.
2. Academic Standards: Teacher education students must have a minimum cumulative grade point average of 2.75 for admission to advanced standing. (A 2.75 grade point must be maintained throughout the remainder of the program as a requirement for admission to student teaching, graduation and recommendation for certification.)
3. A passing score on the Preprofessional Skills Test in Mathematics, Reading and Writing. (Information concerning the cost, dates and location of the test is available from the Office of Teacher Education.)
4. Program requirements as specified by the program director.

Admission to Student Teaching

Student teaching is an extremely important and valuable part of your teacher preparation program. Your program director will provide you with the objectives to be fulfilled during student teaching, including, but not limited to, instruction, supervision, pupil evaluation, conferences with parents and faculty meetings. You will also be given the criteria for evaluation and retention in student teaching. Prior to registration for student teaching, each student must complete the Application for Admission to Student Teaching available from the Office of Teacher Education.

Requirements for Admission to Student Teaching:

1. A 2.75 cumulative grade point average.
2. Completion of all requirements for admission to advanced standing.
3. Successful completion of all preclinical and human relations field experiences (2.75 average with a minimum grade of "C" (2.0) in each).
4. Successful completion of all education courses identified in Part 4 of the Application for Admission to Student Teaching (2.75 average with a minimum grade of "C" (2.0) in each).
5. Competence in the area of academic specialization as specified by the program.

Teacher Certification

Teacher education programs at Stout meet state teacher certification requirements in Wisconsin. Programs will likely meet certification requirements in many, if not all, other states. However, teacher certification varies by state (some require state history, etc.) and requirements change periodically. Therefore, students contemplating teaching in another state may wish to clarify the acceptance of their program at Stout with the state in which they plan to teach. The director of the Office of Teacher Education is the certifying officer at Stout. Necessary forms and information concerning the certification process are available in the Office of Teacher Education.

Requirements that must be met before certification can be recommended in an undergraduate certification program:

1. Graduation with a minimum grade point average of 2.75 based on all course work except the clinical program. (Clinical program is defined as all supervised experiences in a school setting which provide practical experience for the student, including prestudent teaching, student teaching, practicum and internships.)
2. Successful completion of student teaching. (Minimum grade of "B" in programs using the grading system or "S" in programs using the OSU option.)
3. A passing score on a standardized examination administered by the Department of Public Instruction. The passing score is determined by the State Superintendent of Public Instruction. (Specific information concerning when and where this examination is administered may be obtained from the Office of Teacher Education.)

If you are enrolled in a graduate certification program, you must satisfy the following requirements to become a practicing professional.

Requirements for Admission to Graduate Certification Programs:

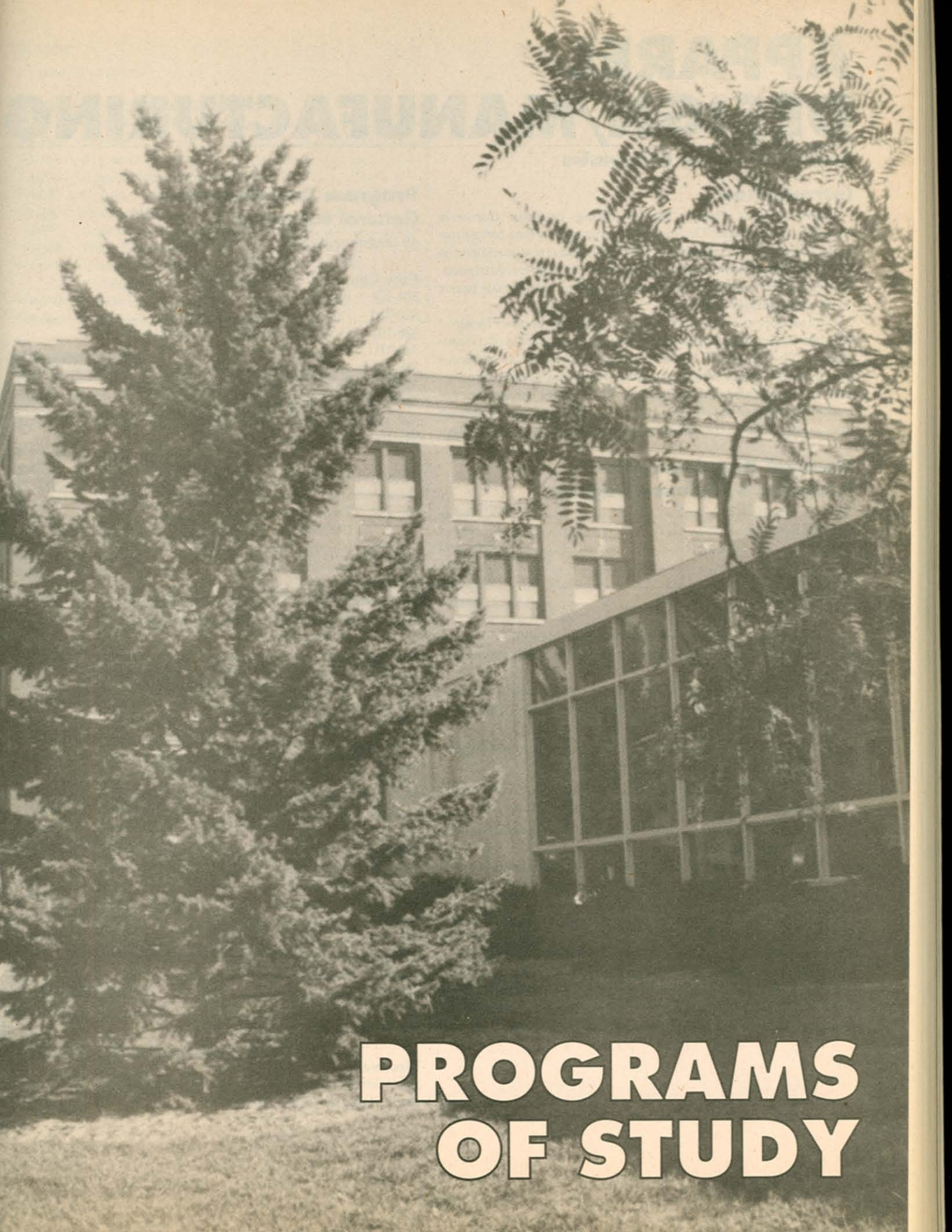
1. A cumulative grade point average in the bachelor's degree of not less than 2.75 on a 4.0 scale.
2. Completion of a minimum of four credits of English and two credits of speech in the bachelor's degree with a grade of at least a "C" (2.0) or completion of the following at Stout:
 - a. College English - Teacher education students must have earned a grade of at least a "C" (2.0) in both English 326-101 and 326-102 or 326-111 and 326-112.
 - b. Speech proficiency - Must have earned a minimum grade of "C" (2.0) in 391-100, Fundamentals of Speech. This requirement may also be met by successful completion, grade of at least a "C" (2.0) of the written and oral portions of "The Speech Department Credit by Examination Procedure" for 391-100, or by successful completion of a second speech course selected from the following: 391-200, 391-206, 391-508 or 391-512.
3. All general admission requirements specified in the Graduate Bulletin.
4. All specific admission requirements specified by the program.

Certification:

Graduate-level certification programs at Stout meet state certification requirements in Wisconsin. Programs will likely meet certification requirements in many, if not all, other states. However, certification varies by state (some require state history, etc.) and requirements change periodically. Therefore, students contemplating certification in another state may wish to clarify the acceptance of their program at Stout with the state in which they plan to teach. The director of the Office of Teacher Education is the certifying officer at Stout. Necessary forms and information concerning the certification process are available in the Office of Teacher Education.

Requirements that must be met before certification can be recommended in a graduate certification program:

1. Graduation with a minimum grade point average of 3.0 in all course work except the clinical program (clinical program is defined as all supervised experiences in a school setting which provide practical experience for the student, including prestudent teaching, student teaching, practicum and internship).
2. Successful completion, minimum grade of "B" (3.0), of all clinical experiences.
3. A passing score on a standardized examination in each certification program completed and in which certification is desired. The standardized examination will be administered by the Department of Public Instruction. The passing score is determined by the State Superintendent of Public Instruction. (Specific information concerning when and where this examination is administered may be obtained from the Office of Teacher Education.)



PROGRAMS OF STUDY

APPAREL DESIGN/MANUFACTURING

School of Home Economics

Introduction

The Apparel Design/Manufacturing program (formerly Clothing, Textiles and Design) is organized into two concentrations related to selected areas of the clothing and textile industries and integrates specific vocational education with liberal education. Students select one major concentration and an appropriate minor or 22-credit emphasis area.

Career opportunities for a graduate in the Apparel Design/Manufacturing program are directly related to the areas of concentration. The Apparel Manufacturing concentration prepares graduates for management positions related to apparel production, quality control and operations. The Apparel Design concentration prepares graduates for careers in designing apparel, fashion illustration, fashion coordination, promotion or public relations.

General Requirements Bachelor of Science Degree

Total for graduation	130 credits
General Education	48 credits
Major	27 credits
Concentrations	27 credits
Free Electives	6 credits
Minor or Professional Electives	22 credits

A grade of 2.0 or better must be obtained in required courses with an overall grade point average of 2.75 or better needed for graduation.

Each student is required to take 27 credits from the major courses and then select from any of the following to complete the general education requirements for the degree :

1. Apparel Design Concentration requirements plus an appropriate minor or 22 credit emphasis area or
2. Apparel Manufacturing Concentration requirements plus an appropriate minor or 22 credit emphasis area or
3. Degree without concentration plus an appropriate minor or 22 credit emphasis area.

Minors which would be appropriate for this major are Art, Business Administration, Computer Science, Economics, Journalism or Speech.

Emphasis areas which would be appropriate are Fashion Merchandising, Graphic Communications, Home Economics Educational Services, or an emphasis in Apparel Design/Manufacturing other than your concentration. Specializations such as Training and Human Resource Development and International Studies are also appropriate. Another option is a semester of study at the American College in London – see page 13 for details.

Program Requirements General Education

48 credits required

Core Courses (16 Credits)

304-101	Fundamentals of Design	3
320-210	Principles of Economics I	3
326-101	Freshman English – Composition or	
326-111	Freshman English – Honors I	3
326-102	Freshman English – Reading and Related Writing or	
326-112	Freshman English – Honors II	3
366-XXX	Any Physical Education or	
367-XXX	Any Physical Education	2
391-100	Fundamentals of Speech	2

Selective Courses (32 Credits)

Natural Science Select 3-5 credits from the following:

308-132	Physiology and Anatomy	4
	(Required for Apparel Design Concentration)	
311-115	General Chemistry I or	
311-135	College Chemistry I	5
372-XXX	Any Physics	3-5

Mathematics Select 4 credits from the following:

355-120	Introductory College Mathematics 1	
	or more advanced	4

Social and Behavioral Sciences Select 6 credits from the following:

303-220	Introduction to Cultural Anthropology or	
387-110	Introductory Sociology	3
479-110	General Psychology or	
479-150	Humanistic Psychology	3

Interdisciplinary Select 3 credits from the following:

212-250	Individual and Family Relations or	
212-355	Life Span Human Development	3

Political Science/Geography Select 3 credits from the following:

336-104	World Geography or	
375-210	Government	3

Humanities Select 12 credits from at least three of the following areas:

304-XXX	Any Art	1-8
326-XXX	Any Writing	1-8
326-XXX	Any Literature	1-8
328-XXX	Any Foreign Language	1-8
329-XXX	Any Foreign Language	1-8
338-XXX	Any History	1-8
360-130	Music Appreciation	2
365-XXX	Any Philosophy	1-8
391-XXX	Any Speech	1-8
500-XXX	Interdisciplinary Studies	1-8

Electives

Select General Education elective credits (not included in your concentration) to bring the total of credits to 48.

Major

27 credits required

214-120	Introduction to Apparel, Textiles and Merchandising	2
214-140	Textiles	3
214-166	Apparel Construction	3
214-274	Apparel Manufacturing	3
214-275	Grading Apparel Patterns	2
214-280	Flat Pattern	3
214-374	Apparel Manufacturing Laboratory	2
214-398	Field Experience	2
214-519	International Economic Trends in Textiles and Clothing	2
214-550	Textile Evaluation	3
214-594	Knit Design and Technology	2

Concentrations

Students may elect one of the following concentrations or complete the degree with electives chosen from the existing concentrations or other 214-XXX courses to complete the required number of credits.

Apparel Design (27 credits)

214-112	Aesthetics of Apparel	2
214-285	Design for Apparel Production	2
214-368	Experimental Clothing	3
214-568	Engineered Tailoring	3
214-581	Theory of Functional Clothing	3
214-610	History of Costume – Ancient to European 1900	3
214-611	History of American Costume	3
214-617	Social/Psychological Aspects of Clothing	3
214-680	Draping	3
214-685	Apparel Design Studio	2

Apparel Manufacturing (27 credits)

150-200	Production Operations Management	3
150-304	Principles of Business Management	3
354-130	Elementary Statistics or	
354-530	Statistical Methods	2-3
214-674	Apparel Manufacturing Management Systems	3

Select 2-3 credits from the following:

150-600	Organizational Leadership	3
479-579	Public Relations	2
479-582	Human Resource Management	3

Select 9 credits from the following:

150-505	Production and Inventory Control	3
150-520	Quality Assurance	3
150-540	Time and Motion Study	3
150-550	Plant Layout	3

Selective

Select 3-5 credits from any other 214-XXX courses

Free Electives

6 credits required

Minor or Professional Electives

22 credits required

APPLIED MATHEMATICS

School of Liberal Studies

Introduction

The role of mathematics in our highly scientific-technological society is basic and essential. Mathematical thought and modeling are valued tools in our sophisticated industrial community. The application of mathematics to industry and business to meet society's needs is increasing. This growth and demand continues to create a need for graduates with training in Applied Mathematics.

The program in Applied Mathematics provides 1. a strong foundation in academic mathematics; 2. computational concepts and techniques in computer science, statistics and mathematical models; 3. experiences in areas where mathematics, computers and/or statistics are utilized; and 4. a broad offering of liberal arts courses.

At the completion of the freshman year or after entering the Applied Mathematics program, all students prepare and submit a tentative plan or guide for their undergraduate program. This plan is developed through consultation with an academic adviser and the Program Director. The ultimate plan is developed to meet the student's professional objectives and goals through the appropriate selection of courses within the major studies and the desired related area in which mathematics, computers and/or statistics are used.

Off-campus work in an approved position using computer and/or statistical techniques in the analysis and solution of real world problems is a valuable option within this major. Students receive salaried appointments and course credits. This experience can be included within the program and completed during the junior or senior year. The duration of the experience is for periods of a summer or a summer plus one semester.

General Requirements Bachelor of Science Degree

Total for graduation	130 credits
General Education	50 credits
Major	62 credits
Professional Electives	0-1 credits
Concentration	17-19 credits

In fulfilling the necessary competencies for a degree, a student may complete the requirements for a minor in Business Administration, Economics, Physics, Chemistry, Biology, Computer Science or Speech. It is the student's responsibility to obtain approval for the minor from the department offering it.

* Required courses.

Program Requirements General Education

50 credits required

English/Speech (13 credits)

326-101	Freshman English – Composition* or	
326-111	Freshman English – Honors I	3
326-102	Freshman English – Reading and Related Writing* or	
326-112	Freshman English – Honors II	3
326-515	Technical Writing	3
391-100	Fundamentals of Speech*	2
391-508	Speech Skills for Business/Industry* or	
391-206	Discussion	2

Psychology/Sociology/Philosophy (6 credits)

365-201	Introduction to Philosophy	3
365-301	Introduction to Logic	3
365-375	Personal and Professional Ethics	3
387-110	Introductory Sociology	3
387-250	Social Psychology	3
479-110	General Psychology	3

Creative Arts (3 credits)

304-XXX	Any Art	2-3
326-XXX	Any Literature	3
360-XXX	Any Music	2-3
391-XXX	Any Theater	3

Physical Education (2 credits)

367-1XX	Any course	2
---------	------------------	---

History/Political Science/Economics (9 credits)

320-210	Principles of Economics I*	3
320-215	Principles of Economics II	3
320-420	Labor Economics	3
338-XXX	Any History	3
375-210	Government	3
375-310	Political Parties and Pressure Groups	3

Physical Science (10 credits)

372-281	University Physics I	5
372-282	University Physics II	5
311-135	College Chemistry I	5
311-136	College Chemistry II	5

Electives

Select any General Education elective credits to meet the minimum credit requirements.

Major

62 credits required

Foundational Mathematics (31 credits)

Select a group of calculus courses:

Group 1

355-156	Calculus and Analysis Geometry I and	
355-157	Calculus and Analysis Geometry II	10

Group 2

355-153	Calculus I and	
355-154	Calculus II	8

Select 21-23 credits from the following to meet minimum requirement.

355-158	Calculus III	3
355-255	Differential Equations*	3
355-275	Linear Algebra	3
355-370	Modern Algebra I	3
355-371	Modern Algebra II	3
355-450	Real Analysis I*	3
355-451	Real Analysis II*	3
355-460	Complex Variables	3
355-350	Vector Analysis	3
355-262	Modern Geometry	3

Computational Mathematics (31 credits)

354-XXX	Survey of Program Languages	3
354-141	Computer Programming - BASIC	2
354-144	Computer Science I*	3
354-145	Computer Science II*	3
354-240	FORTTRAN Programming	3
354-241	Assembly Language*	3
354-331	Probability and Mathematical Statistics*	3
354-332	Probability and Mathematical Statistics II	3
354-341	Data Structures*	3
354-343	Computer Graphics	3
354-441	Computer Organization*	3
354-442	Systems Programming	3
354-446	Numerical Analysis I	3
354-447	Numerical Analysis II	3
354-448	Software Engineering	3
354-490	Mathematical Models I*	2
354-491	Mathematical Models II*	2
354-530	Statistical Methods	3
354-531	Design of Experiments I	2
354-532	Design of Experiments II	2
354-535	Stochastic Processes I	2
354-536	Stochastic Processes II	2

Professional Electives

Select 0-1 elective credits from the major, concentration or minor to fulfill the degree requirements of 130 credits.

Concentrations

Applied Research (18 credits)

354-531	Design of Experiments I	2
354-532	Design of Experiments II	2
354-535	Stochastic Processes I	2

Select at least one block of the following and one course from another block.

Operational Systems

150-650	Introduction to Operations Research	4
354-536	Applied Stochastic Processes II	2

Psychological Techniques

479-190	Psychological Methods I	3
479-390	Experimental Psychology	3
479-690	Psychological Measurement	3

Marketing Systems

160-330	Principles of Marketing	3
169-679	Marketing Research	3
320-470	Economic Model-Building and Forecasting	3

Packaging Systems

170-280	Packaging Fundamentals	2
170-380	Consumer Packaging Systems	3
170-480	Packaging Design and Evaluation	3

Within the 31 credits required in computational mathematics, take 354-332, 354-442 and 3 additional credits from either 354-446 or 354-448.

Applied Physics (18 credits)

372-467	Mathematical Physics	3
372-518	Microprocessors and Applications	3
372-531	Statics	3
372-533	Dynamics	3
372-537	Electricity and Magnetism	3

Select at least 3 credits from:

110-270	Circuit Analysis	4
110-280	Networks	4
372-527	Solid State Physics	3
372-529	Atomic and Nuclear Physics	3
372-535	Optics	3

Within the 31 credits required in foundational mathematics, select 3 additional credits from either 355-350 or 355-460.

Architectural Design (17 credits)

130-110	Drafting	2
130-221	Architectural Design I	3
130-290	Mechanics of Solids I or	
372-531	Statics	3
130-325	Architectural Design II	3
130-592	Mechanics of Machinery I or	
372-533	Dynamics	3
372-518	Microprocessors and Applications	3

Business Management (18 credits)

160-206	Accounting I	3
160-207	Accounting II	3
160-312	Cost Accounting <i>or</i>	
160-335	Accounting for Management Decisions	3
160-330	Principles of Marketing	3
320-550	Managerial Economics	3

Select at least 3 credits from:

150-600	Organizational Leadership	3
150-740	Decision Theory	3
160-319	Business Law II	3
160-320	Income Tax Accounting	3
160-340	Business Finance	3
160-355	Principles of Risk Management	3
160-679	Market Research	3
320-421	Collective Bargaining and Labor Relations	2
320-435	Money, Banking and Financial Markets	3
320-470	Economics Model-Building and Forecasting	3

Computer Systems Integration (19 credits)

110-270	Circuit Analysis	4
110-371	Solid State Electronics	3
110-473	Digital Logic and Switching	3
110-542	Computer Applications	3
110-574	Microprocessor Fundamentals	3

Electives

110-280	Networks	4
110-474	Digital Electronics	3

Food Production Quality Control (18 credits)

110-551	Introduction to Microprocessors <i>or</i>	
372-518	Microprocessors and Applications	3
150-520	Quality Assurance	3
229-650	Food Processing	3
308-506	Food Microbiology	3
311-535	Instrumental Methods of Analysis	3

Select 3 credits from:

150-505	Product and Inventory Control	3
170-280	Packaging Fundamentals	2
170-296	Manufacturing-Materials and Processes I	3
170-380	Consumer Packaging Systems	3
229-212	Nutrition	3
229-240	Food Science	4
229-638	Experimental Foods	3
308-332	Genetics <i>and</i>	
308-333	Genetics Laboratory	3
311-515	Food Chemistry	3

Industrial Management (17 credits)

150-200	Production/Operations Management	3
150-500	Engineering Economy	2
150-505	Product and Inventory Control	3
150-520	Quality Assurance	3
160-206	Accounting I	3
160-410	Manufacturing Cost Analysis	3

Mechanical Design (18 credits)

130-110	Drafting	2
130-290	Mechanics of Solids I	3
130-291	Mechanics of Solids II	3
130-532	Mechanical Design	4
130-592	Mechanics of Machinery I	3
130-593	Mechanics of Machinery II	3

Mechanical Design – Drafting (17 credits)

130-110	Drafting	2
130-212	Descriptive Geometry	3
130-290	Mechanics of Solids I <i>or</i>	
372-531	Statics	3
130-592	Mechanics of Machinery I <i>or</i>	
372-533	Dynamics	3
372-518	Microprocessors and Applications	3

Select at least 3 credits from:

110-270	Circuit Analysis	4
110-280	Networks	4
110-371	Solid State Electronics	3
110-542	Computer Applications in Electronics	3
110-583	Fundamentals of Control	4
130-532	Mechanical Design	4
130-537	Mechanical Design Drafting	2
130-593	Mechanics of Machinery II	3
130-636	Computer Assisted Design	2

Numerical Control (17 credits)

110-551	Introduction to Microprocessors <i>or</i>	
372-518	Microprocessors and Applications	3
150-520	Quality Assurance	3
170-296	Manufacturing – Materials and Processes I	3
170-504	Computer Aided Manufacturing	3
170-505	Robotics	2

Select at least 3 credits from:

170-280	Packaging Fundamentals	2
170-380	Consumer Packaging Systems	3
170-510	Manufacturing Systems	3
170-515	Metallurgy	3
170-537	Numerical Control in Manufacturing	1-3
311-541	Chemistry of Materials	3
160-520	International Business Policies	3

APPLIED TECHNOLOGY

School of Industry and Technology

Introduction

Applied Technology is based on a foundation of mathematics, science and applied engineering. Program concentrations include Microelectronics, Material and Process Engineering, Communication Systems and Manufacturing Systems. These have been developed to satisfy the needs of industry. Course work requires an application of engineering theory and practice. Graduates are applications-oriented individuals who are prepared to meet the challenges faced by industry.

This degree program requires each student to complete one year each in college calculus and analytic geometry, chemistry and physics. Therefore, the high school student should prepare with a strong background in mathematics and science. High school course work in electronics, computer programming and technology education is suggested.

Microelectronics This concentration enables the graduate to apply knowledge of science and mathematics to solve industrial problems in the area of electronics. Areas of specialization include computers, microprocessors, communication and controls.

Material and Process Engineering Graduates in this field use their knowledge of materials to 1. establish material standards based upon industrial needs; 2. design, construct and utilize material test equipment; 3. evaluate material properties; 4. select the appropriate materials after analysis of the engineering, environmental, and production requirements to produce the desired product; 5. establish process procedures and specifications appropriate for a specific material or product; 6. evaluate, select and/or modify processing methods to satisfy production requirements; and 7. help design products that utilize materials well and are easy to manufacture.

Communication Systems Communication Systems graduates use their communications training to 1. identify and analyze the technical requirements for industrial and business communication; 2. develop plans and propose solutions to satisfy the communication requirements in business and industry; and 3. coordinate the implementation of technical systems for comprehensive communications within the industrial and business environment.

Manufacturing Systems Graduates apply their knowledge of Computer Aided Manufacturing (CAM), Computerized Numerical Control (CNC), Computer Aided Design (CAD), Flexible Manufacturing Systems, Robotics, and Group Technology in an industrial environment. Work may include the design and implementation of manufacturing systems utilizing the newest technologies. These positions may be in the manufacturing engineering department or graduates may report directly to a manufacturing project manager, senior manufacturing systems analyst or senior industrial engineer.

Note: The dynamic nature of today's technology requires frequent changes in upper level courses. Consult with your adviser or program director for recently approved program changes.

General Requirements

Bachelor of Science Degree

Total for graduation	134
General Education	32
Major	54
Concentrations	48

Program Requirements

General Education

32 credits required

170-301	Technology, Resources, Environment	2
320-210	Principles of Economics I	3
326-101	Freshman English - Composition	3
326-102	Freshman English - Reading and Related Writing	3
326-515	Technical Writing	3
354-144	Computer Science I	3
366-XXX	First Aid or Health	1
391-100	Fundamentals of Speech	2
<i>Select 9 credits from the following areas:</i>		
338-XXX	Any History	3
365-XXX	Any Philosophy	3
375-210	Government	3
387-110	Sociology	3
479-110	General Psychology	3
<i>Select 3 credits from:</i>		
304-XXX	Any Art	1-3
326-XXX	Any Literature	3
360-XXX	Any Music	1-3
391-XXX	Any Theater	1-3

Major

54 credits required

110-270	Circuit Analysis	4
110-371	Solid State Electronics	3
130-103	Communication and Information Technology	3
130-110	Drafting	2
150-150	Industrial Organization	2
170-102	Manufacturing Materials and Processes I	3
170-103	Manufacturing Materials and Processes II	3
311-135	College Chemistry I	5
311-136	College Chemistry II	5
354-330	Introduction to Probability and Statistics	4
355-156	Calculus and Analytic Geometry I	5
355-157	Calculus and Analytic Geometry II	5
372-281	University Physics I	5
372-282	University Physics II	5

Concentrations

48 credits required

Choose one of the following:

Microelectronics

110-280	Networks	4
110-376	Electronics Fabrication Laboratory	2
110-381	Linear Electronic Circuits	3
110-473	Digital Logic and Switching	3
110-474	Digital Electronics	3
110-542	Computer Application in Electronics	3
110-574	Microprocessor Fundamentals	3
110-575	Microprocessor Interfacing	3
110-583	Fundamentals of Control	4
110-586	Instrumentation	3
355-255	Differential Equations	3
372-380	Electromagnetic Fields	3
372-527	Solid State Physics	3
<i>Select a minimum of 5 credits from the following:</i>		
110-683	Control Systems	3
170-504	Computer Aided Manufacturing	3
170-505	Robotics	2
170-510	Manufacturing Systems	3
354-240	Intermediate Computer Programming	3
355-275	Linear Algebra	3
372-325	Strength of Materials	3
372-529	Atomic and Nuclear Physics	3
372-535	Optics	3
110-X97	Field Experience or	
110-X49	Cooperative Education	1-6
XXX-XXX	Additional approved electives	

Material and Process Engineering

170-205	Design for Industry	3
170-504	Computer Aided Manufacturing	3
311-201	Organic Chemistry Lecture	3
311-203	Organic Chemistry Laboratory	1
311-501	Physical Chemistry Lecture	3
311-503	Physical Chemistry Laboratory	1
311-541	Chemistry of Materials	3
<i>Select 8-10 credits from the following:</i>		
170-222	Industrial Ceramics	3
170-230	Metal Machining Technology	3
170-250	Plastics I	2
170-313	Wood Technology	3
170-357	Metal Casting Processes	3
170-365	Production Welding Technology	3
<i>Select a minimum of 16-18 credits from the following:</i>		
170-X99	Independent Study	1-2
170-505	Robotics	2
170-510	Manufacturing Systems	3
170-513	Manufacturing Processes - Wood Products	3
170-537	Numerical Control	3
170-621	Research and Development Lab	1
214-140	Textiles	3
311-X99	Independent Study	1-2
354-145	Computer Science II	3
354-241	Assembly Language Programming	2
372-325	Strength of Materials	3
170-X97	Field Experience or	
170-X49	Cooperative Education Experience	1-6
XXX-XXX	Additional approved electives	

Communication Systems

110-473	Digital Logic and Switching	3
110-552	Electronic Communication	3
110-574	Microprocessor Fundamentals	3
120-640	Telecommunications Systems Teleconferencing	2
130-234	Interactive Graphics	2
130-504	Communication and Information Systems	3
130-505	Office Automation Technology	2
130-506	Introduction to Telephony	2
130-509	Business Applications in Desktop Publishing	2
160-105	Fundamentals of Financial Accounting	2
160-310	Management Information Systems	2
170-504	Computer Aided Manufacturing	3
354-145	Computer Science II	3
354-241	Assembly Language Programming	2

Select 3 credits from the following:

110-574	Microprocessor Fundamentals or	
372-518	Microprocessors and Applications	3

Select a minimum of 14 credits from the following:

110-553	Instrumentation and Control	3
120-504	Elementary Photography	2
120-630	Audio/Film/TV Production Fundamentals	3
130-XXX	Seminar in Communication and Information Systems	4
130-636	Computer Assisted Design Problems	2
150-500	Engineering Economy	2
150-514	Industrial Enterprise Practicum	3
170-489	Business and Industry Internship	2-8
354-246	Computer Programming Cobol	3
354-341	Data Structures	3
354-441	Computer Architecture and Operating Systems I	3
354-442	Computer Architecture and Operating Systems II	3
355-275	Linear Algebra	3
372-252	Laser Light and Waves	1
372-355	Optoelectronics	3
372-535	Optics	3
391-208	Theory of Communication	3
130-X97	Field Experience or	
130-X49	Cooperative Education	1-6
XXX-XXX	Additional approved electives	

Manufacturing Systems

110-260	Introduction to Fluid Power	2
110-553	Instrumentation and Control	3
130-311	Technical Drafting	3
130-636	Computer Assisted Design Problems	2
170-205	Design for Industry	2
170-222	Industrial Ceramics	3
170-230	Metal Machining Technology	2
170-250	Plastics I	2
170-357	Metal Casting Processes	3
170-365	Production Welding Technology	2
170-313	Wood Technology	3
170-504	Computer Aided Manufacturing	3
170-505	Robotics	2
170-510	Manufacturing Systems	3
170-537	Numerical Control in Manufacturing	3

Select a minimum of 10 credits from the following:

110-361	Industrial Hydraulics	2
110-362	Industrial Pneumatics	2
130-XXX	Statics, Strength, Kinematics	3
130-504	Communications and Information Systems	1-3
150-200	Production/Operations Management	3
150-500	Engineering Economy	2
150-505	Product and Inventory Control	3
150-510	Production Processing	3
150-514	Industrial Enterprise Practicum	3
150-520	Quality Assurance	3
150-530	Material Handling	3
150-540	Time and Motion Study	3
150-550	Plant Layout	3
170-280	Packaging Fundamentals	2
170-380	Packaging Systems	3
170-489	Business and Industrial Internship	2-8
170-513	Manufacturing Processes - Wood Products	3
170-515	Metallurgy	3
214-140	Textiles	3
354-241	Assembly Language Programming	2
372-518	Microprocessors and Applications	3
170-X97	Field Experience or	
170-X49	Cooperative Education	1-6
XXX-XXX	Additional approved electives	

ART

School of Liberal Studies

Introduction

The Bachelor of Fine Arts in Art offers study in Studio Art or concentrations in Industrial Design, Interior Design or Graphic Design. The curriculum provides students with experiences in studio work, art history, professional studies and general studies. An understanding of liberal studies, art history, the present status of art and design, and an inquisitive attitude toward experimentation in problem-solving will move students to a more professional level in their selected concentration. The 27 experienced art and design faculty ensure current course content and serve as advisers to the students in respective areas. A required midprogram review offers students a general view of their performance. Extensive library resources and the art and design department slide library are significant assets. Foreign study opportunities allow students variety in cultural experiences. Opportunities in internships and cooperative education supplement educational theory and practice in a setting with working professionals. A 2.5 grade point average and a 2.0 or better in art and design department courses is required to complete this Bachelor of Fine Arts degree. Those who choose major studies in Studio Art must present an exhibition of their work during their senior year. All students who concentrate in design must present a portfolio of their work in the final semester.

General Requirements Bachelor of Fine Arts Degree

Total for graduation	132 credits
General Education	45 credits
Major	16 credits
Concentrations	71 credits

Program Requirements General Education

45 credits required

320-201	General Economics <i>or</i>	
320-210	Principles of Economics I	3
326-101	Freshman English – Composition <i>or</i>	
326-111	Freshman English – Honors I	3
326-102	Freshman English – Reading and Related Writing <i>or</i>	
326-112	Freshman English – Honors II	3
338-XXX	Any History	3
355-XXX	Any Mathematics	4
	<i>Elective substitution permitted through mathematics department approval</i>	
366-XXX	Any Health	1
367-XXX	Any Physical Education	1
391-100	Fundamentals of Speech	2
479-110	General Psychology <i>or</i>	
479-632	Perception	3

Selectives (22 credits)

Humanities Select 7-9 credits from at least two areas:

326-XXX	Any Literature	1-3
328-XXX	Any French	1-4
329-XXX	Any Spanish	1-4
330-XXX	Any Mandarin Chinese	1-4
	<i>minimum of 4 credits in same language.</i>	
365-XXX	Any Philosophy	1-3

Social Sciences Select 6 credits from at least two areas:

303-XXX	Any Anthropology	1-3
375-XXX	Any Political Science	1-3
387-XXX	Any Sociology	1-3

Natural Sciences Select 7-9 credits from at least two areas:

<i>One must be a laboratory course.</i>		
308-XXX	Any Biology	1-4
311-XXX	Any Chemistry	1-5
372-XXX	Any Physics	1-5

Major

16 credits required

304-100	Drawing I	3
304-101	Fundamentals of Design	3
304-1XX	Introduction to Art and Design	1
304-500	Drawing II	3
304-523	Survey of Art – Ancient through Medieval	3
304-524	Survey of Art – Renaissance through 20th Century	3

Studio Courses

Specified in each of the concentrations.

Studio Art Option

The student may complete the following sequence of courses in studio art in consultation with the program director or select a concentration in graphic design, industrial design, or interior design.

Studio Art Option (71-77 credits required)

Note: Two "advanced" studios may be deleted (except Drawing)

120-504	Elementary Photography	2
304-145	Practice of Art	2
304-501	Life Drawing I	3
304-502	Life Drawing II or	
304-500	Drawing II (repeated)	3
304-509	Painting I	3
304-510	Painting II	3
304-511	Sculpture I	3
304-512	Sculpture II	3
304-513	Ceramics I	3
304-514	Ceramics II	3
304-515	Art Metals I	3
304-516	Art Metals II	3
304-517	Printmaking I	3
304-518	Printmaking II	3
304-545	Senior Seminar	1
304-607	Aesthetics (Senior Year)	3
304-XXX	Any additional Art History	9

one must be a modern art history.

Art Selectives (18 credits)

Nine additional advanced credits must be taken in either Painting, Ceramics, Sculpture, Art Metals or Printmaking to establish a studio concentration.

Electives (6 credits)

Concentrations

Graphic Design (71 credits required)

120-504	Elementary Photography	2
130-140	Graphic Arts	2
130-251	Composition	3
170-280	Packaging Fundamentals	2
304-210	Letter Form Design	3
304-300	Design Theory and Methods	3
304-305	Presentation Techniques	3
304-310	Graphic Design I	3
304-319	Evolution of Design	3
304-360	Graphic Design II	3
304-480	Senior Project	3
304-501	Life Drawing	3
304-503	Advanced Design	3
304-517	Printmaking I (serigraphy recommended)	3
304-XXX	Any Art History	3
304-XXX	Graphic Design Symposium	1
354-140	Computer Concepts	2

Select at least 4 credits from:

120-605	Advanced Photography	2
120-630	Audio/Film/TV Production Fundamentals	3
120-645	Color Photography	2
130-355	Line and Halftone Photography	2
130-366	Image Transfer	3
130-509	Business Desktop Publishing	1
130-545	Publication Production	1
160-330	Principles of Marketing	3
160-370	Principles of Advertising	3
479-579	Public Relations	2

XXX-XXX Other courses approved by program director.

Select at least 6 credits from:

(one must be 304-380 or 304-410)

304-380	Signage and Exhibit Design	3
304-410	Product and Packaging Graphics	3
304-XXX	Publication Graphics	3
304-XXX	Information Graphics	3
304-XXX	Advertising Graphics	3

XXX-XXX Other courses approved by program director.

Select at least 12 credits from:

304-500	Drawing II	3
304-502	Life Drawing	3
304-518	Printmaking	3
304-XXX	Any Sculpture	3
304-XXX	Any Ceramics	3
304-XXX	Any Art Metals	3
304-XXX	Any Painting	3

XXX-XXX Other courses approved by program director.

Select 4 additional selective credits.

Industrial Design (71 credits required)

130-110	Drafting	2
130-311	Technical Drafting	3
170-102	Manufacturing – Materials and Processes I	3
170-103	Manufacturing – Materials and Processes II	3
304-300	Design Theory and Methods	3
304-305	Presentation Techniques	3
304-310	Graphic Design I	3
304-319	Evaluation of Design	3
304-330	Industrial Design I	3
304-335	Product Form Design	3
304-340	Industrial Design II	3
304-360	Graphic Design II	3
304-430	Industrial Design III	3
304-432	Industrial Design Portfolio	1
304-440	Industrial Design IV	3
304-503	Design	3
304-511	Sculpture	3
354-140	Computer Concepts	2

Select at least 4 credits from:

100-500	Introduction to Futures Studies	2
120-504	Elementary Photography	2
130-140	Graphic Arts	3
130-221	Architectural Design I	3
130-636	Computer Assisted Design Problems	2
170-280	Packaging Fundamentals	2

XXX-XXX Other courses approved by program director.

Select at least 12 credits from:

304-315	Environmental Interior Design	3
304-320	Interior Furniture Design	3
304-380	Signage and Exhibit Design I	3
304-405	Advanced Presentation Techniques for Designers	3
304-410	Product and Packaging Graphics	3
304-500	Drawing II	3
304-501	Life Drawing I	3
304-509	Painting I	3
304-510	Painting II	3
304-512	Sculpture II	3
304-513	Ceramics I	3
304-514	Ceramics II	3
304-515	Art Metals I	3
304-516	Art Metals II	3
304-517	Printmaking I	3
304-518	Printmaking II	3

*Select 5 additional elective credits.***Interior Design (71 credits required)**

130-120	Construction Drafting	2
130-221	Architectural Design I	3
130-234	Interactive Graphics	2
170-270	Light Building Construction	2
214-140	Textiles I	3
304-204	Interior Design I	3
304-300	Design Theory and Methods	3
304-304	Interior Design II	3
304-305	Presentation Techniques	3
304-314	Specifications	2
304-315	Environmental Design I	3
304-316	Environmental Design II	3
304-319	Evolution of Design	3
304-320	Furniture Design	3
304-431	Symposium	2
304-503	Advanced Design	3
304-511	Sculpture or	
304-513	Ceramics	3
304-532	Economics of House Furnishing	3
304-533	Period Furnishings	3

Select at least 4 credits from:

120-504	Elementary Photography	2
130-180	Hospitality Living and Institutional Facility Planning	2
130-212	Descriptive Geometry	3
130-325	Architectural Design II	3
150-304	Principles of Management	3
245-436	Commercial and Residential Lighting	2
354-140	Computer Concepts	2

XXX-XXX Other courses approved by program director.

*Select 12 credits from the following:**(two may be design courses)*

304-500	Drawing II	3
304-501	Life Drawing	3
304-509	Painting I	3
304-510	Painting II	3
304-511	Sculpture I	3
304-512	Sculpture II	3
304-513	Ceramics I	3
304-514	Ceramics II	3
304-515	Art Metals I	3
304-516	Art Metals II	3
304-517	Printmaking I	3
304-518	Printmaking II	3

XXX-XXX Other courses approved by program director.

Select 3 additional elective credits.

ART EDUCATION

School of Liberal Studies

Introduction

The Art Education program provides students with experience in liberal studies, art history, studio art and professional education. It is a Bachelor of Science degree program that prepares students for certification by the Department of Public Instruction for teaching art in elementary and secondary schools. An understanding of general studies, art history, the present status of art and the educational environment, with an inquisitive approach toward problem solving, will move students to a more professional level. The 27 experienced art and design faculty ensure current course content and serve as advisers for students. Preteaching observation, presented at the sophomore level, offers students an early involvement in elementary and secondary schools. A required mid-program review offers students a general understanding of their performance. Extensive library resources and the art and design department slide library are a significant asset. Foreign study opportunities allow students variety in cultural experiences. An optional 11 credit additional concentration in Special Education is available.

General Requirements Bachelor of Science Degree

Total for graduation	138 credits
General Education	46 credits
Major	92 credits

A minimum grade point average of 2.75 on a 4.0 scale is required in major, minor, concentration and professional education courses.

A 2.75 grade point average or higher and a "C" (2.0) or better in art department courses are required for admission to student teaching and graduation.

Art Education majors must present an exhibition of their work during the senior year.

* A grade point of 2.0 or better is required.

Program Requirements

General Education

46 credits required

326-101	Freshman English – Composition* or	
326-111	Freshman English – Honors I*	3
326-102	Freshman English – Reading and Related Writing* or	
326-112	Freshman English – Honors II *	3
326-250	Classical and Biblical Literature	3
338-210	Modern World History	3
355-XXX	Any Math (except 355-119)	4
366-XXX	Any Health	1
367-XXX	Any Physical Education	1
375-210	Government	3
391-100	Fundamentals of Speech*	2
479-110	General Psychology	3

Selectives (20 credits)

Humanities – select 4-7 credits from the following:

326-XXX	Any Literature	1-3
328-XXX	Any Foreign Language	1-4
329-XXX	Any Foreign Language	1-4
330-XXX	Any Foreign Language	1-4
	(minimum 4 credits in same language)	
365-XXX	Any Philosophy	1-3
338-XXX	Any History	1-3

Social Sciences – select 6 credits from the following:

Choose from two areas:

303-XXX	Any Anthropology	1-3
320-XXX	Any Economics	1-3
375-XXX	Any Political Science	1-3
387-XXX	Any Sociology	1-3

Natural Sciences – select 7-9 credits from the following:

Choose one biology and either chemistry or physics—one must be a laboratory course.

308-XXX	Any Biology	1-4
311-XXX	Any Chemistry	1-5
372-XXX	Any Physics	1-5

Major

94 credits required

120-504	Elementary Photography	2
304-100	Drawing I	3
304-101	Fundamentals of Design	3
304-145	The Practice of Art	2
304-500	Drawing II	3
304-501	Life Drawing I	3
304-509	Painting I	3
304-511	Sculpture I	3
304-513	Ceramics I	3
304-515	Art Metal I	3
304-517	Printmaking I	3
304-545	Senior Seminar	1
304-607	Aesthetics	3

Art Studio Selectives (9 credits)

Art History Selectives (12 credits)

304-523	Survey of Art: Ancient through Medieval	3
304-524	Survey of Art: Renaissance through 20th Century	3

Select 2 additional art history courses.

Professional Studies (36 credits)

305-208	Preteaching Observation Seminar	2
	(Sophomore Year)	
305-311	Curriculum Development for Art	2
305-402	Introduction to Teaching Art in Elementary Schools	2
305-403	Introduction to Teaching Art in Secondary Schools	2
305-408	Student Teaching Art in the Elementary School	8
305-409	Student Teaching Art in the Secondary School	8
421-303	Educational Psychology	2
421-326	Foundations of Education	2
421-536	Working with the Culturally Different	2
421-576	Field Experience: Cross Cultural Experience	1
431-630	Mainstreaming Special Students	3
421-682	Reading Methods: Secondary School	2

CHILD DEVELOPMENT AND FAMILY LIFE

School of Home Economics

Introduction

The Child Development and Family Life program is the study of human development and family life in which child, family and community are viewed as interrelated. A multi-disciplinary approach provides perspective and specialized knowledge to deepen the understanding of people and to develop creative approaches to serving them. Graduates of the program locate positions in family life education, human services and business-related employment settings, in addition to being prepared for advanced study.

The program integrates academic study with significant experiential learning with children, families and community groups. Students are involved in observation/participation, field experience, independent study and practicum throughout the program. Hospitals, human service agencies, community groups, adolescent group homes, homes for older people, and business and industry settings provide opportunities for the synthesis of practical and theoretical knowledge in child development and family life.

General Requirements

Bachelor of Science Degree

Total for graduation	130 credits
General Education	43 credits
Major	59-63 credits
Free Electives	6 credits
Concentration	18-22 credits

A minimum cumulative grade point average of 2.0 is required for graduation.

* Required courses with a grade of 2.0 or better.

Program Requirements

General Education

43 credits required

Written and Spoken Communication (8 credits)

326-101	Freshman English – Composition* or	
326-111	Freshman English – Honors I	3
326-102	Freshman English – Reading and Related Writing* or	
326-112	Freshman English – Honors II	3
391-100	Fundamentals of Speech*	2

Natural Sciences (5 credits)

308-122	Biology – An Environmental Approach	3
308-132	Physiology and Anatomy	4
308-332	Genetics	2
308-333	Genetics Lab	1
311-115	General Chemistry I or	
311-135	College Chemistry I	5
372-211	Introduction to Physics	3
372-251	Topics in Astronomy	1
372-254	Earth Physics	1

Mathematics (4 credits)

355-118	Concepts of Mathematics* or	
355-120	Introduction of College Math I	4

Social and Behavioral Sciences (12 Credits)

479-110	General Psychology*	3
387-110	Introductory Sociology*	3
<i>Select 6 credits from the following:</i>		
303-250	The Human Past or	
303-220	Introduction to Cultural Anthropology	3
320-201	General Economics or	
320-210	Principles of Economics I	3
336-104	World Geography	3
375-210	Government	3

Humanities and Fine Arts (13 credits)

Literature Select 3 credits from the following:

326-303	Family in Literature or	
326-XXX	Any Literature	3

History Select 3 credits from the following:

338-120-121	United States History	3
338-140-114	Western Civilization or	
338-XXX	Any History	3

Language and Philosophy Select 2 credits from the following:

100-500	Introduction to Future Studies	2
300-510	Introduction to Women's Studies	2
328-101	Elementary French I	4
329-103	Elementary Spanish I	4
329-121	Practical Spanish	2
365-201	Introduction to Philosophy	3
326-375	Professional Ethics	3

Fine Arts Select 5 credits from the following:

304-XXX	Any Art	1-5
360-XXX	Any Music	1-5
391-XXX	Any Speech	1-5
391-XXX	Any Theater	1-5
120-XXX	Any Media	1-5

Physical Education (1 credit)

366-346	Cardiopulmonary Resuscitation (CPR) .....	.5
367-XXX	Any Physical Education (activity) .....	.5-1

Major

59-63 credits required

Career Development (4 credits)

200-325	Computer Applications in Home Economics*	2
212-101	Introduction to Child Development and Family Life*	1
212-401	Professional Issues: Child Development and Family Life*	1

Human Development (9 credits)

212-124	Child Development I*	3
212-264	Child Guidance*	3
212-530	Adulthood and the Family*	3

Family Science (14 credits)

212-250	Individual and Family Relations*	3
212-350	Dynamics of Family Development*	3
212-4XX	Divorced, Single Parent and Remarried Families*	2
212-553	Dual Career Families*	1
212-590	Family Research and Methodology*	3
212-654	Workplace and the Family*	2

Professional Development (20-24 credits)

212-354	Skill Training for Individual/Family Intervention*	3
212-607	Parent Counseling*	2
212-638	Child Abuse and Neglect*	2
212-650	Introduction to Marriage and Family Therapy*	3
212-653	Relationship Communication Training*	2
212-693	Practicum in Child Development and Family Life*	4-8
242-651	Family Life Education Programs*	2
413-666	Alcoholism and Family System Intervention*	2

Child and Family Policy and Law (9 credits)

212-601	Child and Family Law* or	
212-626	Women and the Law* or	
160-318	Business Law*	3
212-610	Family Impact Seminar*	3
375-510	Public Policy Analysis*	3

Professional Electives (3 credits required)

Free Electives

6 credits required

Concentrations

18-22 credits required

Students may elect one of the following concentrations or complete the degree with electives chosen in consultation with the program director.

Child Development (18-22 credits)

212-160	Children's Health and Safety*	1
212-507	Parent Education*	2
212-524	Child Development II*	3
387-205	Introduction to Social Work*	3
387-420	Child and Family Agencies*	3

Selectives (6-10 credits)

150-600	Organizational Leadership	3
212-265	Guild Guidance Practicum	1
212-274	Creative Activities for Young Children	2
212-352	Parenthood	1
212-397	Field Experience	2
212-535	Seminar on Self-growth	2
212-595	Intergenerational Lab	2
212-615	Family Stress Coping and Adaptation	1
212-626	Violence in the Family	1
212-666	Family Planning	1
212-680	The Aging Person	2
212-685	Seminar on the Culturally Distinct Child and Family	2
212-686	Experience: The Culturally Distinct Child and Family	1
229-136	Nutrition for Young Children	2
387-215	Sociology of the Family	3
387-430	Social Casework Methods	3
431-532	Psychology of the Exceptional Child	3
479-552	Adolescent Psychology	3

Human Resource Management (18-22 credits)

150-304	Principles of Business Management*	3
150-600	Organizational Leadership*	3
212-585	Structure and Function of Family Based Employee Assistance Program*	3
245-626	Employee Labor Relations*	2
479-582	Human Resource Management*	3

Selectives (4-8 credits)

130-504	Communication and Information Systems	1-3
140-581	Principles of Occupational Safety	2-3
140-590	Products Liability	2
150-150	Industrial Organization	2
150-360	Quality Circles	2
150-660	Industrial Management	3
160-310	Management Information Systems	3
160-601	Legal Environment of Business	2
195-532	Future of Technology	2
195-540	Future of Work	2
212-535	Seminar on Self Growth	2
320-421	Collective Bargaining	2
326-516	Technical Writing	3
391-200	Persuasive Speaking	2
391-508	Speech Skills for Business and Industry	2
391-514	Interviewing	1
421-536	Working with the Culturally Different	2
479-579	Public Relations	2

Family Life Education (18-22 credits)

212-507	Parent Education*	2
242-201	Presentation Strategies in Home Economics*	2
387-205	Introduction to Social Work*	3
387-420	Child and Family Agencies*	3
Selectives (8-12 credits)		
212-251	Early Years of Marriage	1
212-351	Death and the Family	1
212-352	Parenthood	1
212-397	Field Experience	2
212-524	Child Development II	3
212-535	Seminar on Self-Growth	2
212-570	Singlehood	1
212-585	Structure and Function of Family Based Employee Assistance Programs	3
212-615	Family Stress Coping and Adaptation	1
212-626	Violence in the Family	1
212-660	Current Topics in Sexuality	1
212-666	Family Planning	1
212-680	The Aging Person	2
212-685	Seminar on the Culturally Distinct Child and Family	2
212-686	Experience: The Culturally Distinct Child and Family	1
212-690	Death Education and Counseling	2
245-676	Family Finance	3
479-552	Adolescent Psychology	3
479-579	Public Relations	2

Family Intervention (18-22 credits)

212-651	Seminar in Marriage and Family Therapy*	3
387-205	Introduction to Social Work*	3
387-420	Child and Family Agencies*	3
387-430	Social Casework Methods*	3
Selectives (6-10 credits)		
212-251	Early Years of Marriage	1
212-524	Child Development II	3
212-535	Seminar on Self-Growth	2
212-570	Singlehood	1
212-585	Structure and Function of Family Based Employee Assistance Programs	3
212-615	Family Stress Coping and Adaptation	1
212-660	Current Topics in Sexuality	1
212-685	Seminar on the Culturally Distinct Child and Family	2
212-686	Experience: The Culturally Distinct Child and Family	1
212-690	Death Education and Counseling	2
245-676	Family Finance	2
413-444	Introduction to Group Process	2
413-675	Counseling Theory	2
413-694	Counseling Older Persons	2

Aging Family (18-22 credits)

212-380	Family in Later Life*	1
212-680	Aging Person*	2
229-505	Nutrition for Aged*	2
387-205	Introduction to Social Work*	3
387-420	Child and Family Agencies*	3
413-694	Counseling Older Persons*	2
Selectives (5-9 credits)		
200-195	Issues in Home Economics – Aging Family	2
212-351	Death and The Family	1
212-397	Field Experience	2
212-585	Structure and Function of Family Based Employee Assistance Program	3
212-595	Intergenerational Lab	2
212-615	Family Stress Coping and Adaptation	1
212-660	Current Topics in Sexuality	1
212-685	Seminar on the Culturally Distinct Child and Family	2
212-686	Experience: The Culturally Distinct Child and Family	1
212-690	Death Education and Counseling	2
214-3XX	Clothing Problems of Elderly	2
245-5XX	Housing for Elderly	2
245-677	Financial Planning for Retirement	2
387-430	Social Casework Methods	3

CONSTRUCTION

School of Industry and Technology

Introduction

The Construction program has grown and evolved from its beginnings in 1963 as an informal concentration in the Industrial Technology major, into a full-fledged major in 1989. The program is designed to prepare individuals for a variety of responsible positions in the field of construction.

Broad objectives of the program include developing fundamental knowledge of science, engineering, business, management, architecture and construction principles; applying scientific, technological and management principles to the solution of construction problems; and integrating diverse scientific and technical areas as they impact on the construction field.

General Requirements

Bachelor of Science Degree

Total for graduation	132 credits
General Education	48-52 credits
Major	67 credits
Free Electives	3-7 credits
Concentrations	10 credits

* New course.

** Modifications will be made to existing course.

*** Maximum of four (4) elective credits may be used toward graduation to satisfy prerequisites for Calculus.

Program Requirements

General Education

48-52 credits required

English/Speech (13 credits)

326-101	Freshman English – Composition <i>or</i>	
325-111	Freshman English – Honors I	3
326-102	Freshman English – Reading and Related Writing <i>or</i>	
326-112	Freshman English – Honors II	3
326-320	Business Writing <i>or</i>	
326-515	Technical Writing	3
391-100	Fundamentals of Speech	2
391-XXX	Any Advanced Speech	2

Social and Behavioral Science (12 credits)

479-110	General Psychology <i>or</i>	
479-150	Humanistic Psychology	3
479-582	Human Resource Management	3
320-201	General Economics <i>or</i>	
320-210	Principles of Economics I	3
375-210	Government	3

Humanities (2-3 credits)

304-XXX	Any Art History	2-3
326-XXX	Any Literature	2-3
338-XXX	Any History	2-3
365-XXX	Any Philosophy	2-3
391-XXX	Any Theater	2-3

Science (15-17 credits)

Select one course from the following:

372-XXX	Geology*	3
372-XXX	Statics and Strength of Materials*	4

Select a group of physics courses:

Group 1

372-231	General Physics I and	
372-232	General Physics II	8

Group 2

372-241	College Physics I and	
372-242	College Physics II	10

Group 3

372-281	University Physics I and	
372-282	University Physics II	10

Mathematics (4-5 credits)

Select one course from the following:

355-152	Calculus for Management***	4
355-153	Calculus***	4
355-156	Calculus and Analytic Geometry***	5

Health (2 credits)

366-340	First Aid and Safety	2
---------	----------------------------	---

Major

67 credits required

Business and Management (18 credits)

150-304	Principles of Management	3
150-500	Engineering Economy	3
150-600	Organizational Leadership	3
160-200	Financial-Managerial Accounting <i>or</i>	
160-206	Introduction to Financial Accounting	3
160-330	Principles of Marketing	3
160-573	Legal Aspects of Construction	3

Architecture, Engineering and Construction (49 credits)

130-120	Architectural Graphics	3
130-424	Architectural Technology	3
130-52X	Contract Requirements and Specifications**	3
130-52X	Structural Systems I**	3
XXX-5XX	Structural Systems II*	3
130-527	Site Engineering	2
170-57X	Environmental Systems I**	3
170-57X	Environmental Systems II**	3
170-270	Light Construction Methods**	2
170-37X	Heavy Construction Methods and Equipment	3
170-275	Construction Materials	2
170-373	Concrete Technology	3
140-588	Construction Safety	2
XXX-XXX	Field Experience <i>or</i>	
XXX-XXX	Cooperative Education	2
1X0-5XX	Management of Construction*	3
150-57X	Estimating I **	3
1X0-5XX	Estimating II*	2
150-67X	Project Scheduling and Cost Control**	3
100-200	Orientation to the Construction Industry*	1

Free Electives

3-7 credits required

Concentrations

10 credits required

Concentrations relating to major are to be developed. The student in consultation with a program director will build a concentration or minor.

DIETETICS

School of Home Economics

Introduction

This program will provide the academic background for a career as a clinical dietitian, administrative dietitian or nutrition educator in the public or to qualify students for private sectors.

This program meets academic requirements for affiliate membership in the American Dietetic Association (ADA). In a 1985 listing of occupations where shortages exist, the field of dietetics showed a 40 percent increase to 1995.

The dietetic student receives an education with equal emphasis on the following sciences: physical and biological; behavioral and social; communication and professional. With this balance, the student can move toward the community and business management of nutrition/food service/restaurant.

General Requirements Bachelor of Science Degree

Total for graduation	130.5 – 134.5 credits
General Education	47.5 – 51.5 credits
Major	68 credits
Concentration or Electives	15 credits

The student must fulfill the English adequacy and speech proficiency requirements prescribed by the respective departments.

Work experience must be obtained through participation in the Field Experience program.

Students must attain a grade point of 2.0 or better in each of the courses in General Education and Major Studies. They must also maintain a 2.5 grade point average in Major Studies. Students have until the second semester of their junior year to attain the 2.5 average. All transferred credits will meet this program requirement.

- * Required courses.
- ** Required for double major in Home Economics Educational Services.
- *** Meets academic requirements for Vocational Certification.
- + Courses recommended for graduate school bound students.

Program Requirements General Education

47.5 - 51.5 credits required

320-210	Principles of Economics I*	3
326-101	Freshman English – Composition* or	
326-111	Freshman English – Honors I*	3
326-102	Freshman English – Reading and Related Writing* or	
326-112	Freshman English – Honors II*	3
326-515	Technical Writing* or	
326-546	Research Reporting*	3
354-130	Elementary Statistics* or	
354-530	Statistical Methods*+	2-3
354-140	Computer Concepts or	
354-141	Computer Programming – BASIC+	2
355-123	Finite Mathematics with Applications or	
355-XXX	Any Advanced Mathematics* or	4
XXX-XXX	Three Years High School Academic Mathematics	
366-340	ARC Standard First Aid and Personal Safety*	2
367-XXX	Any Physical Education*	5
367-121	Exercise and Fitness*	1
479-582	Human Resource Management*	3
Select 2-21 credits from the following:		
329-103	Elementary Spanish I	4
329-104	Elementary Spanish II	4
391-100	Fundamentals of Speech*	2
391-204	Techniques of Group Leadership	2
391-206	Discussion	2
391-208	Theory of Communication	3
391-512	Speech Skills for Educators	2
413-444	Introduction to Group Processes	2
Select 9 credits from three different areas of the following:		
304-XXX	Any Art	1-3
326-XXX	Any Literature	3
360-XXX	Any Music, except 360-264 Stage Band	1-2
365-XXX	Any Philosophy, except 365-301 Introduction to Logic	1-3
391-232	Introduction to the Theater or	
391-334	Contemporary Theater	2-3
120-535	Film – History and Appreciation	3
Select 11-18 credits from:		
303-XXX	Any Anthropology*	3
387-110	Introductory Sociology*	3
421-303	Educational Psychology*	2
479-110	General Psychology*	3
212-XXX	Any Human Development and Family Living	1-3
214-617	Social/Psychological Aspects of Clothing	3
338-XXX	Any History	3
Select 3-9 credits from the following:		
375-210	Government* or	
375-220	State and Local Government*	3
375-310	Political Parties and Pressure	3
375-340	International Relations	3
375-345	Problems of American Foreign Policy Groups	3

Major

68 credits required

150-304	Principles of Business Management*	3
229-397	Field Experience (Seminar)* or	
229-397E	Field Experience*	1
229-101	Dietetics as a Profession*	1
229-212	Nutrition*	3
229-240	Food Science*	4
229-308	Management of Food Production*	3
229-410	Advanced Nutrition*	3
229-618	Diet Therapy*	4
229-638	Experimental Foods*	3
229-661	Social and Cultural Aspects of Food*	2
245-222	Institutional Food Purchasing*	2
245-311	Quantity Food Production*	3
245-501	Food Service Administration*	3
245-521	Food Service Equipment*	2
308-132	Physiology and Anatomy*	4
308-306	General Microbiology*	4
308-362	Advanced Physiology*	3
311-125	Principles of Chemistry for Health Sciences*, or	
311-135	College Chemistry*	5
311-201	Organic Chemistry Lecture*	3
311-203	Organic Chemistry Laboratory*	1
311-511	Biochemistry*	4
<i>Select 7-10 credits from the following:</i>		
120-560	Audiovisual Communications*	2
229-606	Nutrition Education*	3
242-201	Teaching Techniques in Home Economics* or	
421-205	Human Relations for the Helping Professions	2
242-240	Clinical Experience in Microteaching	1
242-241	Clinical Experiences in the Community	1
242-341	Clinical Experiences in Schools	1

Concentrations

Students may select one of the following concentrations or complete the degree with electives in consultation with a program director.

Clinical Nutrition (15 credits)

229-380	Community Nutrition	3
229-505	Nutrition for the Aged	2
229-630	Food Behavior	3
229-633	Maternal and Child Nutrition	3
311-515	Food Chemistry	3
311-612	Advanced Biochemistry+	3
479-540	Psychology of Individual and Group Differences	3

Commercial Dietetics (15 credits)

120-504	Elementary Photography	2
229-542	Advanced Foods	2
229-620	Food Styling	1-3
229-630	Food Behavior	3
XXX-XXX	Appropriate electives	5

Community Nutrition (15 credits)

229-XXX	Community Nutrition Programs	2
229-XXX	Community Nutrition Practicum	1
229-380	Community Nutrition	3
229-505	Nutrition for the Aged	2
229-633	Maternal and Child Nutrition	3
375-220	State and Local Government	3
<i>(if not taken for General Education requirement)</i>		
375-310	Political Parties and Pressure Groups	3

Consultant Dietetics (15 credits)

Select 12-13 credits from the following:

160-206	Introduction to Financial Accounting	3
130-180	Hospitality/Living/Institutional Facility Planning	2
150-450	Maintenance Management	2
229-620	Food Styling	1-3
242-240	Clinical Experience in Microteaching	1
242-241	Clinical Experiences in the Community	1
245-312	Restaurant Operational Management	3
245-371	Food, Beverage and Labor Cost Controls	3
413-444	Introduction to Group Process	2
<i>Select 2-3 credits from the following:</i>		
229-380	Community Nutrition	3
229-505	Nutrition of the Aged	2
229-630	Food Behavior	3

Food Service Administration (15 credits)

160-206	Introduction to Financial Accounting I	3
229-260	Menu Planning and Design	2
229-542	Advanced Foods	2
229-620	Food Styling	1-3
245-312	Restaurant Operational Management	3
245-371	Food, Beverage and Labor Cost Controls	3

Geriatric Nutrition (15 credits)

212-351	Death and the Family	1
212-530	Adulthood and the Family	3
212-680	The Aging Person	2
229-380	Community Nutrition	3
229-505	Nutrition for the Aged	2
229-542	Advanced Foods	2
229-630	Food Behavior	3
242-241	Clinical Experiences in the Community	1

Nutrition and Foods Communication (15 credits)*Select 9-10 credits from the following:*

120-561	Advanced Graphic Production	2
229-380	Community Nutrition	3
229-620	Food Styling	1-3
242-240	Clinical Experience in Microteaching	1
391-244	Radio Program and Production <i>or</i>	
391-554	Television Programming and Performance	3

Select 5-6 credits from the following:

229-542	Advanced Foods	2
XXX-XXX	Appropriate electives	5

Nutrition Education (15 credits)*Select 13 credits from the following:*

229-505	Nutrition for the Aged	2
229-630	Food Behavior	3
229-633	Maternal and Child Nutrition	3
229-680	Community Nutrition	3
242-301	Home Economics Curriculum**	3
242-240	Clinical Experience in Microteaching**	1
242-341	Clinical Experiences in the Schools**	1

Select 2 credits from the following:

212-507	Parent Education/Involvement	2
242-620	Vocational Programs in Home Economics	2

For vocational certification:

413-501	Introduction to Guidance	2
199-502	Principles of Vocational, Technical and Adult Education	2

Nutrition Facility Planning (15 credits)

130-180	Hospitality/Living/Institutional Facility Planning ...	2
130-325	Architectural Design II (<i>prerequisite waived</i>)	3
130-526	Building Construction Specifications	2
140-587	Human Factors Engineering	3
170-570	Mechanical Systems	2
245-436	Commercial and Residential Lighting	2
XXX-XXX	Appropriate electives	5

Prenatal, Infant and Child Nutrition (15 credits)

212-124	Child Development I	3
212-264	Child Guidance	2-3
212-507	Parent Education/Involvement	2
212-524	Child Development II	3
229-380	Community Nutrition	3
229-630	Food Behavior	3
229-633	Maternal and Child Nutrition	3

Secondary Dietary Education (47 credits)*Students must also complete the Nutrition Education concentration.*

212-XXX	Minicourses in Family Life	1
212-124	Child Development I	3
212-250	Individual and Family Relations	3
212-264	Child Guidance	2-3
212-350	Dynamics of Family Development	3
212-680	The Aging Person	2
214-109	Applied Design for Family Living	2
214-140	Textiles	3
214-166	Apparel Construction	3
242-101	Experiential Learning in Home Economics Education	2
242-444	Practicum in Teaching Home Economics	6
242-443	Clinical Seminar in Home Economics Education	2
245-250	Family Housing	3
245-275	Management of Family Resources	3
245-360	Consumer Economics	3
413-501	Introduction to Guidance	2
421-582	Secondary Reading and Language Development	2

Systems Dietetics (15 credits)

354-141	Computer Programming - BASIC	2
354-XXX	Computer Applications for Dietetics	3
354-240	FORTTRAN Programming	3
354-241	Assembly Language Programming	3
354-341	Data Structures	3
355-153	Calculus I	4

Vocation/Food Service and Nutrition (15 credits)

229-620	Food Styling	1-3
242-240	Clinical Experience in Microteaching***	1
242-301	Home Economics Curriculum***	3
242-620	Vocational Programs in Home Economics	2
245-312	Restaurant Operational Management	3
413-501	Introduction to Guidance***	2
421-641	Education Evaluation***	2
199-502	Principles of Vocational, Technical and Adult Education***	2

EARLY CHILDHOOD EDUCATION

School of Home Economics

Introduction

This Early Childhood Education program provides students with the knowledge and skills needed for working with young children in educational settings. The prescribed courses meet the requirements for Preschool through Grade 3 teaching certification for the State of Wisconsin. A cooperative program with the University of Wisconsin-Eau Claire offers the opportunity for additional certification in grades 4-6.

The Early Childhood Education program places emphasis both on general education and preparation for a professional career. In the major studies, involvement with children and families begins the freshman year with observation/participation experiences in Stout's Child and Family Study Center, Day Care Facility, and/or Infant-Toddler Laboratory. General education encourages exploration of a variety of fields of knowledge to provide educational experiences which will develop the ability to express one's self effectively, develop clear and critical thinking, and develop awareness of the great ideas and accomplishments of mankind.

General Requirements Bachelor of Science Degree

Total for graduation	132 credits
General Education	44 credits
Major	83 credits
Concentration or Electives	5-10 credits

A minimum cumulative grade point average of 2.75 is required for graduation.

An overall grade point average of at least 2.75 is required for acceptance into advanced standing in professional teacher education. Students must make written application to the office of Teacher Education prior to the academic year in which the student desires to enroll in student teaching.

Students must have a minimum of a full semester, full day student teaching and student teaching at the prekindergarten, kindergarten and primary levels. Proficiency in Mathematics, Reading and Writing as demonstrated by achieving passing scores on the Preprofessional Skills Test is also required.

* Required course.

** Required courses with a grade point of 2.0 or better. Courses in which a student earns less than the required 2.0 must be retaken and at least a 2.0 earned prior to student teaching.

*** Required major courses with grade point of 3.0 or better. Courses in which a student earns less than the required 3.0 must be retaken and at least a 3.0 earned prior to student teaching.

Program Requirements

General Education

44 credits required

326-101	Freshman English - Composition** or	
326-111	Freshman English - Honors I**	3
326-102	Freshman English - Reading and Related Writing** or	
326-112	Freshman English - Honors II**	3
355-118	Concepts of Mathematics** or	
326-120	Introduction to College Math I**	4
366-340	ARC Standard First Aid and Personal Safety**	2
366-XXX	Any Physical Education or	
367-XXX	Any Physical Education	1
391-100	Fundamentals of Speech**	2
479-110	General Psychology**	3

Natural Sciences (6-7 credits)

Biology Select at least one from the following:

308-122	Biology (Lab)	3
308-132	Physiology and Anatomy (Lab)	4
308-142	Botany (Lab)	4
308-150	Man and the Environment*	2
308-152	Zoology (Lab)	4
308-206	Food Service and Environmental Sanitation	1
308-332	Genetics	2
308-333	Genetics (Lab)	1
308-342	Community Hygiene	2

Chemistry/Physics Select at least one from the following:

311-115	General Chemistry I (Lab) or	
311-135	College Chemistry I (Lab)	5
311-553	Environmental Chemistry (Lab)	3
372-211	Introduction to Physics	3
372-212	Introduction to Physics (Lab)	1
372-251	Topics in Astronomy	1
372-252	Laser Light and Waves	1
372-254	Earth Physics	1
372-255	Meteorology	2

Social Sciences (6 credits)

303-250	Man and His Past	3
320-201	General Economics or	
320-210	Principles of Economics I	3
336-104	World Geography	3
375-210	Government*	3
387-110	Introductory Sociology	3

Humanities and Fine Arts (11-13 credits)**Literature** Select 3 credits:

326-300	Literature for Young Children**	3
326-XXX	Any Literature	3

History or Contemporary Culture Select 3 credits:

303-220	Introduction to Cultural Anthropology* or	
338-210	Modern World*	3
338-XXX	Any History	3

Language and Philosophy Select 2-4 credits:

100-500	Introduction to Future Studies	2
300-255	Creative Problem Solving	2
328-101	Elementary French I	4
329-103	Elementary Spanish I	4
329-121	Practical Spanish	2
365-201	Introduction to Philosophy	3
365-301	Introduction to Logic	3
365-305	Philosophy of Religion	3
365-375	Professional Ethics	3

Fine Arts Select 3 credits

120-504	Elementary Photography	2
304-XXX	Any Art	
360-XXX	Any Music	
391-XXX	Any Speech	
391-XXX	Any Theater	

Electives

Select any General Education elective credits to bring total to 44 credits.

Major

88 credits required

Career Development (1 credit)

212-100	Introduction to Early Childhood Education Programs**	1
---------	---------------------------------------------------------	---

Developmental Processes, Health and Safety (16-17 credits)

212-124	Child Development I**	4
XXX-XXX	Children's Health and Safety and Nutrition**	2
212-250	Individual and Family Relations**	3
212-638	Child Abuse and Neglect** or	
387-420	Child and Family Agencies**	2-3
431-516	Psychology of the Exceptional Child**	3
421-303	Educational Psychology**	2

Professional Education (66 credits)

421-326	Foundations of Education**	2
212-264	Child Guidance**	3
212-274	Creative Activities for Young Children**	2
212-594	Infant/Toddler Programming**	2
212-685	Seminar on the Culturally Distinct Child and Family**	2
212-686	Experience: The Culturally Distinct Child and Family**	1
360-XXX	Music for the Young Child**	2
367-265	Physical Activities for Preschool Children**	2
212-507	Parent Education/Involvement**	2
212-294	Teaching/Learning Strategies in Early Childhood***	5
212-344	Science, Mathematics and Social Studies in Early Childhood Education***	4
212-5XX	Primary Curriculum: Science, Mathematics and Social Sciences**	4
212-5XX	Language Arts in Early Childhood Education**	2
212-433	Language Arts and Reading in Early Childhood **	3
421-5XX	Developmental Reading and Language Arts: Elementary**	3
421-5XX	Clinical Experience in Teaching Reading	1
212-545	Programming for Early Childhood: Exceptional Educational Needs**	2
212-480A	Student teaching in Preschool Programs** or	4
212-492	Student Teaching in Prekindergarten**	8
212-480B	Student Teaching in Kindergarten** or	4
212-493	Student Teaching in Kindergarten**	8
212-5XX	Student Teaching: Primary**	8
212-6XX	Early Childhood Education Program Models**	1
212-665	Administration of Early Childhood Education Programs**	3

Electives

Electives to bring total in major to 88 credits.

Concentrations

Students may elect one of the following concentrations or complete the degree with electives chosen in consultation with the program director.

Business and Administration (10 credits)

140-590	Product/Service Liability	2
260-200	Financial and Managerial Accounting	3
160-230	Small Business Management	3
160-318	Business Law I	3
160-355	Principles of Risk Management	3
229-404	Food Service for Children	3
229-604	Food Service Practicum for Child Care Centers	1
326-515	Technical Writing	3
479-570	Assertive Training Procedures	2
479-579	Public Relations	2

Education of Children

with Special Learning Needs (10 credits)

Non-certification program

212-XXX	Practicum	1-3
212-541	Home Based Programs in Early Childhood Education	1
212-545	Programming for Early Childhood: Exceptional Educational Needs	2
413-647	Behavior Problems of Children	2
413-648	Learning Disabilities in Young Children	2
431-585	Introduction to Mental Retardation	2
431-630	Mainstreaming Special Students	3

Vocational, Technical and Adult Education (6 credits)

Certification for teaching child care at Vocational-Technical Institutions.

199-502	Principles of Vocational, Technical and Adult Education	2
199-640	Instructional Evaluation	2
413-501	Introduction to Guidance	2

2000 hours of occupational experience also required.

Other current requirements are included in major studies courses.

Early Childhood Family Education (7 credits)

212-350	Dynamics of Family Development	3
212-651	Family Life Education	3
212-XXX	Early Childhood Family Education	1

Other current requirements are included in major studies courses.

Child Life Care (10 credits)

Hospital education liaison.

212-524	Child Development II	3
212-351	Death and the Family	1
212-607	Parent Counseling	2
212-637	Seminar in Child Development	2
391-210	Interpersonal Speech Communication	2
391-236	Listening	2
479-251	Child Psychology	3
479-673	Psychology of Stress	2
212-235	Child Development Lab or	
212-298	Field Experience	2

Early Childhood Exceptional Education Needs

(Minimum credits set by UW-Eau Claire.)

Students interested in earning Early Childhood Exceptional Education Needs (808) certification can qualify for UW-Eau Claire endorsement by completing the required credits in consultation with the UW-Eau Claire program adviser.

Elementary Education Certification

(Minimum credits set by UW-Eau Claire.)

FASHION MERCHANDISING

School of Home Economics

Introduction

Fashion Merchandising is a four-year program designed to prepare students for entry into the retail department store specialty and/or low margin store business. Program requirements are structured to provide the student with specific retailing skills and comprehension; broad knowledge of general business in areas such as marketing, accounting, economics and advertising; and self-growth through a variety of liberal studies such as mathematics, humanities, social sciences, English, science and communications. In addition to a Fashion Merchandising major, many students elect a minor in Business, Speech or Journalism. Also, students may take additional courses for a planned emphasis in Human Resource Management or Promotions.

Career possibilities available to graduates with a degree in Fashion Merchandising are limited only to the individual's capabilities. But a typical, not exclusive, broad list would include: group manager, store manager, buyer, divisional merchandise manager, resident buyer, operations manager, director of personnel, promotion-publicity manager, and fashion director. In retail store jobs, there is little limitation to the type of merchandise, which typically includes apparel, gifts-china, fashions for the home, such as interiors and domestics, shoes, cosmetics, furniture, fabrics, and entertainment centers. Graduates are also prepared for careers as manufacturers sales representatives, and in service industry jobs. Independent study projects or transfer requirements must have approval of the program director.

Optional academic experiences available in this program are an American College in London National Study Tour and Cooperative Education. See the program director for additional information on these opportunities.

General Requirements Bachelor of Science Degree

Total for graduation	130 credits
General Education	45 credits
Major	66 credits
Free Electives	19 credits

A minimum grade point average of 2.5 is required for graduation.

Program Requirements General Education

45 credits required

Communications/Skills Cluster (13 credits)

A minimum cumulative grade point average of 2.5 is required for all work taken in this cluster.

326-101	Freshman English – Composition	3
326-102	Freshman English – Reading and Related Writing	3
326-XXX	Any Writing	3
391-100	Fundamentals of Speech	2
<i>Select 2 credits from:</i>		
391-100	Persuasive Speaking	2
391-206	Discussion	2
391-210	Interpersonal Speech Communication	2
391-508	Speech Skills for Business and Industry	2

General Studies Cluster (32 credits)

There is no minimum cumulative grade point average required for the remainder of the General Education requirements.

304-101	Fundamentals of Design	3
326-XXX	Any Literature	3
355-119	Business Mathematics or	
355-120	Introductory College Mathematics I	4
366-XXX	Any Physical Education	1
367-XXX	Any Physical Education	1
387-110	Introductory Sociology	3
479-110	General Psychology or	
479-150	Humanistic Psychology	3
<i>Select 1 course from:</i>		
120-580	Microcomputer Applications Words/Data	2
200-325	Computer Applications in Home Economics or	
354-140	Computer Concepts	2
<i>Select 1 course from:</i>		
336-104	World Geography	3
338-XXX	Any History or	
375-XXX	Any Political Science	3
<i>Select 3 credits from:</i>		
212-250	Individual and Family Relations	3
303-XXX	Any Anthropology	3
365-375	Personal and Professional Ethics	3
<i>Select at least 2-4 credits from:</i>		
304-XXX	Any Art	2-3
328-XXX	Any French	4
329-XXX	Any Spanish	4
360-XXX	Any Music	1-2
391-232	Introduction to the Theater	3
<i>Select at least 4-5 credits from:</i>		
308-XXX	Any Biology	2-4
311-115	General Chemistry	5
372-XXX	Any Physics	1-4

Major

66 credits required

Retail Cluster (26 credits)

Students completing major studies courses in this cluster must earn at least a 2.0 grade in each course and must have at least a cumulative grade point average of 2.5 on all work taken in this cluster.

214-120	Introduction to Apparel/Textiles/Merchandising	2
214-227	Basic Merchandising	3
214-230	Merchandise Planning and Control	4
214-329	Fashion Merchandising Promotion	3
214-330	Home Furnishings Merchandising	2
214-339	Apparel Merchandising	1
214-398	Fashion Merchandising Field Experience	2
214-426	Practicum	3
214-435	Merchandising Systems	1
214-527	Store Management	3
214-625	Mass Merchandising	2

Retail Related Business Cluster (23-24 credits)

Students completing major studies courses in this cluster must earn at least a 2.5 cumulative grade point average on all work taken in this cluster.

160-206	Accounting I	3
160-207	Accounting II	3
160-330	Principles of Marketing	3
160-370	Principles of Advertising	3
320-210	Principles of Economics I	3
320-215	Principles of Economics II	3

Select at least 2-3 credits from:

150-600	Organizational Leadership	3
479-579	Public Relations	2
479-582	Human Resource Management	3

Select at least 3 credits from:

160-260	Introduction to International Business	3
160-318	Business Law I	3
160-334	Salesmanship and Sales Management	3
160-337	Purchasing	3
160-585	International Marketing	3

Retail Related Cluster (17-18 credits)

There are no additional grade point average requirements for courses in this cluster.

214-112	Aesthetics of Apparel	2
214-140	Textiles	3
214-200	Fashion Fabrics	1
214-202	Quality Analysis of Sewn Products	3
214-617	Social/Psychological Aspects of Clothing	3
245-360	Consumer Economics	3

Select at least 2-3 credits from:

214-610	History of Costume: Ancient to European	3
214-611	History of American Costume	3
214-XXX	History and Trends in Retailing	2

Free Electives

19 credits required

Select courses from the following or from any department in the University to meet the degree credit requirement.

Retail

214-400	Self Presentation in Business	1
214-499	Independent Study	1-3
214-519	International Economic Trends in Textiles/Clothing	2
214-525	Men's and Boys' Merchandising	1
214-535	Special Topics in Fashion Merchandising	1-2
214-449F	Cooperative Education	3-6 (Substitutes for 214-426)
214-477	American Fashion College in London	16
214-619	National Study Tour	1

Retail Related Business

160-318	Business Law I	3
160-335	Accounting for Management Decisions	3
160-337	Purchasing	3
160-679	Marketing Research	3
320-325	Economics and Business Statistics	3
354-XXX	Any Computer Course	2-3
479-679	Advanced Public Relations	2

Personal Growth

212-535	Seminar on Self-Growth	2
212-553	Dual Career Families	1
214-400	Self Presentation in Business	1
479-570	Assertive Training Procedures	2
479-673	Psychology of Stress	2

Communication

326-320	Business Writing	3
326-345	Creative Writing	3
326-346	Informational Writing	3
391-244	Radio Programming and Production	3
391-514	Interviewing	2
391-554	Television Programming and Performance	3

FOOD SERVICE ADMINISTRATION

School of Home Economics

Introduction

The program in Food Service Administration provides the academic background for a career as an administrator in large quantity food production and service facilities. Areas in which a food service administrator would be concerned in serving nutritional diets to large groups of people (100 or more) are: industrial feeding; airline feeding; school food service; university food service; nursing home and hospital food service; day care and geriatric centers; fast food service; commissary food production; vending food operation; and supermarket management. Concentrations available in non-traditional employment are Food Service Equipment Design, Food Service Equipment Manufacturing, Food Service Equipment Marketing and Sales, and Food Service Facility Planning.

General Requirements Bachelor of Science Degree

Total for graduation	133 credits
General Education	66-70 credits
Major	54-55 credits
Concentration or Electives	8-13 credits

The student must fulfill the English adequacy and speech proficiency requirements prescribed by the respective departments.

Work experience must be obtained through participation in the Field Experience program.

Students must attain a grade point of 2.0 or better in each of the courses within general studies, major studies and concentrations. These requirements also apply to transfer credits.

* Required courses.

** Required for Business minor only.

Program Requirements General Education

66-70 credits

308-306	General Microbiology*	4
308-132	Physiology and Anatomy*	4
311-125	Principles of Chemistry for Health Sciences*	5
311-201	Organic Chemistry*	3
311-203	Organic Chemistry Lab*	1
326-101	Freshman English - Composition* or	
326-111	Freshman English - Honors I*	3
326-102	Freshman English - Reading and Related Writing* or	
326-112	Freshman English - Honors II* or	
XXX-XXX	CLEP score on English Composition	3
326-515	Technical Writing* or	
326-546	Research Reporting*	3
320-210	Principles of Economics I*	3
320-215	Principles of Economics II*	3
320-420	Labor Economics *	3

354-140	Concepts of Computer*	2
355-123	Finite Mathematics* or	
355-XXX	Any Advanced Mathematics* or	4
XXX-XXX	Three years of High School Academic Mathematics	
Select 2-19 credits from the following:		
391-100	Fundamentals of Speech* and	2
XXX-XXX	Speech Proficiency Exam*	
329-103	Elementary Spanish I	4
329-104	Elementary Spanish II	4
391-206	Discussion	2
391-204	Techniques of Group Leadership	2
391-208	Theory of Communication	3
391-512	Speech Skills for Educators	2
413-444	Introduction to Group Processes	2
Select 4 credits from the following:		
120-560	Audiovisual Communications*	2
242-201	Teaching Techniques in Home Economics*	2
242-240	Clinical Experience in Micro-Teaching	1
242-241	Clinical Experiences in the Community	1
242-341	Clinical Experiences in Schools	1
Select 9 credits from at least 3 different areas:		
120-535	Film: History and Appreciation	3
304-XXX	Any Art	1-4
326-XXX	Any Literature	1-3
360-XXX	Any Music (except 326-264 Stage Band)	1-3
365-XXX	Any Philosophy (except 365-301 Introduction to Logic)	1-3
391-232	Introduction to Theater or	
391-334	Contemporary Theater	3-2
Select 11-17 credits from the following:		
303-220	Cultural Anthropology*	3
387-110	Introductory Sociology*	3
421-303	Educational Psychology	2
479-110	General Psychology*	3
212-XXX	Any Human Development and Family Living	1-3
214-617	Social/Psychological Aspects of Clothing	3
338-XXX	Any History	2-3
Select 3-9 credits from the following:		
375-210	Government*	3
375-310	Political Parties and Elections	3
375-320	Civil Liberties in the United States	3

Major

54-55 credits

150-304	Principles of Management*	3
160-206	Introduction to Financial Accounting*	3
160-207	Introduction - Corporate and Managerial Accounting*	3
160-330	Principles of Marketing*	3
229-101	Dietetics as a Profession*	1
229-212	Nutrition*	3
229-240	Food Science*	4
229-260	Menu Planning and Design*	2
229-308	Management of Food Production*	3
229-661	Social and Cultural Aspects of Food*	2
245-222	Institutional Food Purchasing*	2
245-311	Quantity Food Production*	3
245-312	Restaurant Operational Management*	3
245-371	Food, Beverage and Labor Cost Controls*	3
245-501	Food Service Administration*	3
245-521	Food Service Equipment*	2
245-656	Microwave Oven*	2
354-130	Elementary Statistics* <i>or</i>	
354-530	Statistical Methods*	2-3
229-X98	Field Experience*	2
366-340	ARC Standard First Aid and Personal Safety*	2
479-582	Human Resource Management*	3

Concentrations or Electives

Students may select one of the following concentrations or complete the degree with electives in consultation with the program director.

Food Service Equipment Design (12 credits)

130-110	Drafting <i>or</i>	
130-311	Technical Drafting	2-3
170-205	Design for Industry	3
245-6XX	Food Service Analysis Seminar	1
304-330	Industrial Design I	3
304-340	Industrial Design II	3

Facility Planning (16 credits)

130-180	Hospitality/Living/Institutional Facility Planning	2
130-325	Architectural Design II	3
130-526	Building Construction Specifications	2
140-587	Human Factors Engineering	3
170-570	Mechanical Systems	2
214-109	Applied Design for Family Living <i>or</i>	
214-545	Textiles for Interiors <i>or</i>	
245-436	Commercial and Residential Lighting	2
245-621	Food Service Layout Analysis	2

Food Service Equipment Manufacturing (12 credits)

130-110	Drafting <i>or</i>	
170-202	Metals	2
170-209	General Finishing	2
170-250	Plastics I	2
170-260	Sheet Metal	2
245-6XX	Food Service Analysis Seminar	1
372-XXX	Physics for Home Economics <i>or</i>	
372-XXX	Equivalent	3

Food Service Equipment Marketing and Sales (15 credits)

130-180	Hospitality/Living/Institutional Facility Planning	2
160-334	Salesmanship and Sales Management	3
160-370	Principles of Advertising	3
160-679	Marketing Research	3
170-201	Processes: Manufacturing	3
245-6XX	Food Service Analysis Seminar	1

GENERAL BUSINESS ADMINISTRATION

School of Industry and Technology

Introduction

The Business Administration program at Stout is unique in that it blends business with technology. It has a solid foundation of general-liberal studies and covers the functional areas of marketing, manufacturing, finance, personnel, accounting and law. It also requires comprehensive courses in policies, management information systems, leadership, and the legal and ethical aspects of management. The unique aspect of requiring credits in a technical component allows a student to tap one or more of Stout's technology areas such as construction, packaging, electronics, robotics, foods, textiles, computers and the like to complement the business program.

Recent graduates have obtained positions in areas of sales, retailing, production control, manufacturing supervision, purchasing, cost accounting, personnel, restaurant management, automotive customer relations, banking and others.

General Requirements

Bachelor of Science Degree

Total for graduation	132 credits
General Education	57 credits
Major	53 credits
Technical component	8 credits
Business electives	8 credits
Free electives	6 credits

Grade point average of at least 2.5 for last 64 credits earned or grade point average of 2.5 overall for Stout course earned in program.

Program Requirements

General Education

57 credits required

Communications Cluster

326-101	Freshman English – Composition or	
326-111	Freshman English – Honors I or	
	English CLEP Test Score of 40	3
326-102	Freshman English – Reading and Related Writing or	
326-112	Freshman English – Honors II or	
	English CLEP Test Score of 48	3
326-320	Business Writing or	
326-515	Technical Writing or	
326-346	Informational Writing or	
326-546	Research Reporting	3
329-121	Practical Spanish	2
391-100	Fundamentals of Speech	2
391-226	Listening	2

Select one course from the following:

391-200	Persuasive Speaking or	
391-206	Discussion or	
391-508	Speech Skills for Business and Industry	2

Select one course from the following:

120-640	Telecommunication Systems and Teleconferencing	2
391-200	Persuasive Speaking	3
391-204	Techniques of Group Leadership	2
391-206	Discussion	2
391-508	Speech Skills for Business and Industry	2
391-210	Interpersonal Speech Communication	1-2
421-205	Human Relations for the Helping Professions	2
459-505	Sign Language	3
479-570	Assertive Training Procedures	2
479-579	Public Relations	2-3

Select 6 credits from three areas:

212-XXX	Any Family Relations	1-3
303-XXX	Any Anthropology	1-3
336-XXX	Any Geography	1-3
375-XXX	Any Political Science	1-3
387-XXX	Any Sociology	1-6
459-XXX	Any Vocational Rehabilitation	1-4
479-XXX	Any Psychology or	
300-XXX	Any Women's Studies	1-3

Select 6 credits from the following three areas/courses:

1XX-XXX	Any Futures Course	1-3
300-XXX	Foreign Tour	1-3
300-575	The Ascent of Man	2
304-XXX	Any Art History	1-4
326-XXX	Any Literature	1-3
32x-XXX	Any Foreign Language (not Spanish I)	1-4
338-XXX	Any History	1-3
365-375	Personal and Professional Ethics	3
391-232	Introduction to the Theater	3
120-XXX	Film History or TV Appreciation	1-3
360-130	Music Appreciation	2
365-XXX	Any Philosophy or Logic	1-3
300-220	Modern China and Japan	3

Select 5 credits, including at least one lab, from the following:

308-XXX	Any Biology	1-4
311-XXX	Any Chemistry	5
372-XXX	Any Physics	1-5

Select 2 credits from the following:

304-XXX	Any Art (activity)	1-3
326-XXX	Any Advanced Writing	1-3
360-XXX	Any Music (activity)	1-3
391-XXX	Any Theater Art (activity)	1-3
391-202	Oral Interpretation	2
399-544	TV Programming and Performance	3
391-XXX	Any Radio	1-3
600-504	Elementary Photography	2

Select 2 credits from the following:

229-XXX	Any Nutrition	1-4
366-102	Personal Health	2
366-340	ARC Standard First Aid and Personal Safety	2
479-XXX	Psychology of Wellness or	
479-673	Psychology of Stress	2

Select 1 credit from the following:

366-346	ARC Cardiopulmonary Resuscitation or	
367-XXX	Any Physical Education (activity)	1

Quantitative Problem-Solving Cluster

355-123	Finite Mathematics with Applications	or	
355-152	Calculus for Management and the Social Sciences	.....	4

Computer Related – Foundation

130-103	Information and Communication Technology	or	
130-505	Office Automation Technology	.....	3

Computer Related – Additional

Select 2 courses totaling at least 4 credits from the following:

120-580	Microcomputer Applications – Words/Data	.....	2
130-234	Computer Assisted Design and Drafting	.....	2
130-504	Communications and Information Systems	.....	1-3
130-505	Office Automation Technology	.....	3
130-507	Artificial Intelligence Applications in Business	.....	2
130-509	Business Applications in Desktop Publishing	.....	1-2
130-XXX	Development and Interpretation of Information – Communication Technology	.....	2
130-XXX	Storage and Retrieval in Information – Communication Technology	.....	2
130-XXX	Transmission and Reception in Information – Communication Technology	.....	2
160-XXX	Accounting for Non-Profits – Government	.....	2
160-310AF	Special Topics – Management Information Systems	.....	2
170-504	Computer Aided Manufacturing	.....	3
214-435	Merchandising Systems	.....	1
245-375	Computer Systems for Food Service	.....	2
354-141	Computer Programming – BASIC	.....	2
354-142	Computer Applications in Business	.....	4
354-144	Computer Science I	.....	3
354-145	Computer Science II	.....	3
354-240	FORTRAN Programming	.....	3
354-241	Assembly Language Programming	.....	3
354-246	Computer Programming - COBOL	.....	3
459-605	Microcomputer Application for the Handicapped	.....	2

Statistics

Select one from the following:

320-325	Economic and Business Statistics	.....	3
354-130	Elementary Statistics	.....	2
354-530	Statistical Methods	.....	2-3

Problem Solving/Thinking

Select one of the following:

170-205	Design for Industry	.....	3
300-255	Creative Problem Solving	.....	3
365-301	Introduction to Logic	.....	3
400-5XX	Thinking Skills	.....	3

Major

53 credits

At least 50 percent of these credits must be taken at Stout.

Foundation

160-100	Introduction to Business Administration	.....	1
160-115	Understanding Business	.....	2
160-206	Introduction to Financial Accounting	.....	3
160-207	Introduction – Corporate and Managerial Accounting	.....	3
320-210	Principles of Economics I	.....	3
320-215	Principles of Economics II	.....	3

Basic Functional

150-200	Production Operations Management	.....	3
150-600	Organizational Leadership	.....	3
160-318	Business Law I	.....	3
160-330	Principles of Marketing	.....	3
160-340	Business Finance	.....	3
479-582	Human Resource Management	.....	3

Advanced

Select one course from each of the following four areas – 2 credit minimum.

Accounting – Cost/Finance

130-475	Printing Economics	.....	3
150-500	Engineering Economy	.....	2-3
150-570	Estimating and Analyzing Construction Costs	.....	3
160-312	Cost Accounting	.....	3
160-320	Income Tax Accounting	.....	3
160-335	Accounting for Management Decisions	.....	3
160-540	International Business Finance	.....	3
214-230	Merchandise Planning and Control	.....	3
245-371	Food, Beverage and Labor Cost Controls	.....	3

Production – Operation

130-543	Graphic Arts Production Techniques	.....	2
214-274	Apparel Manufacturing	.....	3
150-220	Quality Systems - Service Industries	.....	3
150-505	Product and Inventory Control	.....	3
150-520	Quality Assurance	.....	3
150-530	Material Handling	.....	3
150-540	Time and Motion Study	.....	3
229-650	Food Processing	.....	3

Marketing

160-334	Salesmanship and Sales Management	.....	3
160-336	Industrial Marketing Management	.....	3
160-337	Purchasing	.....	3
160-370	Principles of Advertising	.....	3
160-438	Industrial Distribution	.....	3
160-520	Direct Response Marketing	.....	3
160-585	International Marketing	.....	3
160-679	Marketing Research	.....	3
214-227	Basic Merchandising	.....	3
214-329	Fashion Merchandising Promotion	.....	3

Human Resources – Supervision

140-581	Occupational Safety/Loss Control	.....	2-3
140-583	Voluntary OSHA Compliance	.....	2-3
140-588	Construction Safety	.....	2
150-630	Quality Circles	.....	2
198-560	Training Systems in Business and Industry	.....	3
198-570	Training Methods in Business and Industry	.....	2
245-626	Hospitality Industry – Employee and Labor Relations	.....	2
320-420	Labor Economics	.....	3

320-421	Collective Bargaining and Labor Relations	2
421-536	Working with the Culturally Different	2
459-520	Rehabilitation of the Chemically Dependent	3
459-587	Handicapped Workers in Business and Industry	3
479-571	Introduction to Health Psychology	3
479-603	Management Employee Reward System	3
479-605	Recruitment and Selection of Human Resources	3

Comprehensive

Select one course from each of the following four areas:

Legal

140-590	Product/Service Liability	2
140-XXX	Security Management	3
160-319	Business Law II	3
160-355	Principles of Risk Management	3
160-365	Principles of Real Estate	2
160-573	Legal Aspects of Construction	3
160-601	Legal Environment of Business	2
160-XXX	International Law	3
245-625	Hospitality Industry Law and Liability	3
431-581	Legal Rights of Handicapped	2

Economics

320-335	Personal Securities Investments	2
320-380	Business and Economic Forecasting	3
320-420	Labor Economics	3
320-421	Collective Bargaining and Labor Relations	2
320-425	Economic Development	3
320-435	Money, Banking, Financial Markets	3
320-440	Principles of Investment	3
320-445	Public Finance	3
320-550	Managerial Economics	3
320-680	International Trade	3

International

160-260	Introduction to International Business	3
160-538	International Logistics	3
160-540	International Business Finance	3
160-585	International Marketing	3
160-XXX	International Law	3
160-XXX	International Business Policies	3
320-680	International Trade	3

Integrated Systems

150-660	Industrial Management	2
160-585	International Marketing	3
160-690	Administrative and Business Policies	3
160-XXX	International Business Policies	3
214-527	Store Management	3
245-515	Lodging Administration	3

Applied

Two courses required - 4 credits minimum.

150-514	Industrial Enterprise Practicum	3
150-605	Production and Inventory Control Practicum	2
150-620	Quality Assurance Practicum or	
170-620	Research and Development	2
160-461	Business Practicum/Management	3
160-520	Seminar	1-3
160-588	International Business Practicum	3
214-426	Fashion Merchandising Practicum	3
245-312	Restaurant Operational Management	3
160-X49	Cooperative Education Experience	2-8
160-489	Business and Industrial Internship	2-8
160-X98	Business Administration Field Experience	2-8

Technical Components

8 credits

Select courses related to career areas such as Foods, Graphic and Telecommunications, Packaging, Textiles, Robotics, Automotive, Construction or others with approval of the program director.

Business Electives

8 credits

Must include at least two courses of which at least one must be from Stout.

Free Electives

6 credits

HOME ECONOMICS EDUCATIONAL SERVICES

School of Home Economics

Introduction

The Bachelor of Science degree in Home Economics Educational Services opens career options in a variety of educational settings. It is a certification program that prepares students to teach in a middle school, junior high school or senior high school. In addition, it prepares students as Extension Agents and 4-H Youth Agents. Vocational/technical school teaching provides yet another focus of preparation and opportunity for Home Economics Educational Services majors. Diversified home economics courses form a large portion of the program's academic work. The program consists of major studies, liberal studies and professional studies components. Through wise use of electives, there is opportunity to build minors and/or concentrations. Cooperatively planned work experiences can be used in the program to strengthen credentials for certification.

General Requirements Bachelor of Science Degree

Total for graduation	135 credits
General Education	46 credits
Major	23 credits
Concentration	66 credits

Students pursuing the degree with a concentration in Home Economics Education/Family Life Certification must have an overall grade point average of 2.75 for graduation; and demonstrate proficiency in mathematics, reading, and writing; and achieve passing scores on the preprofessional skills test.

- * Designates courses requiring a grade of 2.0 or better to be applied to the degree.
- ** Required courses.

Program Requirements General Education

46 credits required

Symbolics of Information (12 credits)

391-100	Fundamental of Speech*	2
326-101	Freshman English - Composition* or	
326-111	Freshman English - Honors I*	3
326-102	Freshman English - Reading and Related Writing* or	
326-112	Freshman English - Honors II*	3
355-118	Concepts of Mathematics or	
355-120	Introduction to College Mathematics I	4
<i>College-Level Education Placement (CLEP) score may be substituted.</i>		

Natural Sciences (13 credits)

308-132	Physiology and Anatomy	4
311-125	Principles of Chemistry for Health Sciences or	
311-135	College Chemistry I	5
311-201	Organic Chemistry	3
311-203	Organic Chemistry Lab	1

Social Sciences (14 credits)

303-220	Introduction to Cultural Anthropology or	
338-210	Modern World	3
320-210	Principles of Economics I	3
366-XXX	Any Physical Education	2
367-XXX	Any Physical Education *	2
375-210	Government	3
479-110	General Psychology	3

Fine Arts (1-3 credits)

304-XXX	Any Art	1-3
360-XXX	Any Music	1-2
391-XXX	Any Theater	2-3
120-504	Photography	2

Humanities (5-7 credits)

326-XXX	Any Literature **	3
365-201	Introduction to Philosophy	3
328-XXX	Any French	4
330-XXX	Any Spanish	4
330-XXX	Any Chinese	2
338-XXX	Any History	3

Major

23 credits required

212-250	Individual and Family Relationships*	3
212-355	Lifespan Human Development*	3
229-212	Nutrition*	3
245-360	Consumer Economics*	3
242-101	Experiential Learning in Home Economics Educational Services*	2
242-201	Presentation Strategies in Home Economics*	2
242-301	Home Economics/Family Life Curriculum*	3
242-460	Home Economics/Family Life Evaluation*	2
421-303	Educational Psychology*	2

Concentrations

66 credits required

Students may elect one of the following four concentrations or complete the degree with electives chosen in consultation with the program director.

Home Economics Education/Family Life Certification

(2.75 overall GPA required)

212-XXX	Parent/Child Interaction**	3
212-654	Workplace and Family**	2
214-140	Textiles**	3
229-240	Food Science**	4
229-308	Management of Food Production**	3
242-240	Clinical Experiences in Microteaching*	1
242-341	Clinical Experiences in the Schools*	1
	(to be taken twice for a total of 2 credits)	
242-448	Practicum in Teaching**	16
242-620	Vocational Programs in Home Economics**	2
245-XXX	Any housing or equipment course**	2
245-250	Family Housing**	3
245-663	Consumer Law**	1
245-676	Family Finance**	2
421-326	Foundations of Education*	2
421-536	Working with the Culturally Different*	2
421-576	Field Experience with the Culturally Different*	1
421-582	Secondary Reading and Language Development*	2
431-516	Psychology of the Exceptional Child* or	
431-630	Mainstreaming*	3
199-502	Principles of Vocational, Technical and Adult Education	2

Select 3-4 credits from the following:

214-109	Applied Design for Family Living	2
214-120	Introduction to Apparel/Textiles/Merchandising	2
214-166	Apparel Construction	3
214-227	Basic Merchandising	3
214-617	Social/Psychological Aspects of Clothing	3

Extension Education

212-XXX	Parent/Child Interaction**	3
214-140	Textiles**	3
229-240	Food Sciences**	4
229-308	Management of Food Production**	3
229-380	Community Nutrition**	3
229-446	Food Preservation**	1
242-240	Clinical Experience in Microteaching**	1
242-397	Field Experience (may be taken more than once)**	2
242-500	Extension Externship**	16
242-630	Concepts of Extension Education**	2
245-250	Family Housing**	3
245-663	Consumer Law**	1

245-676	Family Finance**	2
326-310	Journalism Practicum**	1
391-244	Radio Programming and Production** or	
391-554	Television Programming and Performance	3
413-444	Introduction to Group Processes**	2
XXX-XXX	Professional Electives	11

Select 6 credits from the following:

214-109	Applied Design for Family Living	2
214-120	Introduction to Apparel/Textiles/Merchandising	2
214-166	Apparel Construction	3
214-227	Basic Merchandising	3
214-617	Social/Psychological Aspects of Clothing	2

Home Economics/Family Life Education

212-654	The Workplace and the Family**	2
212-XXX	Parent/Child Interaction**	2
214-140	Textiles**	3
229-240	Food Science**	4
229-308	Management of Food Production**	3
245-XXX	Any housing or equipment course**	2
245-250	Family Housing**	3
245-663	Consumer Law**	1
245-676	Family Finance**	2

Select 3-4 credits from the following:

214-109	Applied Design for Family Living	2
214-120	Introduction to Apparel/Textiles Merchandising	2
214-166	Apparel Construction	3
214-227	Basic Merchandising	3
214-617	Social/Psychological Aspects of Clothing	3
199-502	Principles of Vocational, Technical and Adult Education**	2
242-240	Clinical Experiences in Microteaching*	1
242-341	Clinical Experiences in the Schools* (repeatable)	1
242-397	Field Experience**	2
	(May be taken more than once for vocational certification.)	
242-620	Vocational Programs in Home Economics**	2
421-326	Foundations of Education*	2
421-536	Working with the Culturally Different* and	
421-576	Field Experience with the Culturally Different	3
421-582	Secondary Reading and Language Development*	2
431-630	Mainstreaming* or	
431-516	Psychology of the Exceptional Child*	3
XXX-XXX	Electives	21-22

Occupational and Community Services

199-502	Principles of Vocational, Technical and Adult Education**	2
199-674	Adult Education**	2
212-685	Culturally Distinct Child and Family**	3
212-686	Experiences: The Culturally Distinct Child and Family**	1
214-617	Social/Psychological Aspects of Clothing**	3
242-397	Field Experience**	5
242-620	Vocational Programs in Home Economics**	2
242-XXX	Seminar in Home and Community in Service**	2
242-XXX	Home and Community Service Practicum**	14
413-510	Introduction to Guidance**	2

Select two 15 credit options or one 30 credit option in the following area(s):

Option 1: Fashion, Merchandising and Retailing

214-112	Aesthetics of Apparel	2
214-120	Introduction to Apparel Textiles Merchandising	2
214-140	Textiles I	3
214-166	Apparel Construction	3
214-202	Quality Analysis of Sewn Products	3

214-227	Basic Merchandising	3	Option 4: Consumer Education		
214-230	Merchandise Planning and Control	4	214-519	International Economic Trends	
214-274	Apparel Manufacturing	3		in Textiles and Clothing	3
214-280	Flat Pattern	3	245-565	Consumer Aspects of Life Insurance	1
214-329	Fashion Promotions	3	245-566	Health Insurance	1
214-339	Apparel Merchandising	1	245-660	Consumer Credit	1
214-374	Apparel Manufacturing Lab	2	245-662	Consumer Protection	1
214-426	Fashion Merchandising	3	245-663	Consumer Law	1
214-519	International Economic Trends		245-676	Family Finance	2
	in Textiles and Clothing	3	245-681	Special Problems in Habitational Resources	2
214-527	Store Management	3	304-532	Economics of House Furnishings	3
214-568	Engineered Tailoring	3	XXX-XXX	Electives	5
214-590	Practicum in Textile Design	3	Option 5: Gerontology Education		
214-680	Draping	3	150-304	Principles of Business Management	3
304-534	Fashion Illustration	3	200-XXX	Seminar on Aging	2
XXX-XXX	Electives	5	212-351	Death in the Family	1
Option 2: Family Life and Child Development			212-530	Adulthood and the Family	3
212-124	Child Development	3	212-626	Special Topics in Study of Family Life	3
212-160	Learning Environments for Young Children	1	212-660	Current Sex Research	1
212-163	Adult/Child Interaction	2	212-680	Aging Persons and the Family	1
212-204	Teaching/Learning Strategies in Early Childhood	5	229-505	Nutrition for the Aged	2
212-264	Child Guidance	3	245-566	Consumer Aspects of Health Insurance	1
212-265	Child Guidance Lab	1	245-650	Human Habitat	3
212-274	Creative Activities for Young Children	2	245-662	Consumer Protection	1
212-350	Dynamics of Family Development	3	245-676	Family Finance	2
212-352	Parenthood	1	308-220	Physiology of Disability	3
212-507	Parent Education/Involvement	3	366-101	Health Survey	1
212-524	Child Development II	3	387-525	Sociology of Leisure	3
212-530	Adulthood and the Family	3	421-685	Psychology of Adult Education	2
212-554	Single Parent Family	1	XXX-XXX	Electives	5
212-595	Infant/Toddler Program	2	Option 6: Interior Design		
212-624	Advanced Child Study	2	214-227	Basic Merchandising	3
212-626	Child and Family Law	3	245-250	Family Housing	3
212-665	Administration-Early Childhood		245-436	Commercial and Residential Lighting	2
	Education Programs	2	245-455	Kitchen Planning	2
212-680	Aged Person and the Family	2	245-650	Human Habitat	3
212-XXX	Parent/Child Interaction	3	304-101	Fundamentals in Design	3
XXX-XXX	Electives	5	304-204	Interior Design	3
Option 3: Food Service and Hospitality			304-205	Problems in Interior Design	2
160-318	Business Law	3	304-300	Design Theory and Methods	3
229-124	Foods or		304-314	Interior Design Procedures	2
229-240	Food Science	4	304-315	Environmental Interior Design I	3
229-305	Baking Processes (only once)	1	304-316	Environmental Interior Design II	3
229-308	Management of Food Production	3	304-319	Evolution of Design	3
229-550	Fast Food Operations	3	304-320	Interior Furniture Design	3
229-620	Food Styling	3	304-431	Symposium in Interior Design	2
229-650	Food Processing	3	304-532	Economics of House Furnishing	3
229-661	Social and Cultural Aspects of Food	2	214-545	Textiles for Interiors	2
245-100	The Role or Management in Hospitality Industry	2	XXX-XXX	Electives	5
245-222	Institutional Food Purchasing	2	Option 7: Tourism		
245-311	Quantity Food Production	3	150-304	Principles of Business Management	3
245-312	Restaurant Operational Management	3	212-XXX	Family Leisure	2
245-344	Hospitality Marketing and Sales	3	245-201	Hospitality Housekeeping Management	2
245-371	Food, Beverage, and Labor Cost Controls	2	245-202	Front Office Management	3
245-501	Food Service Administration	3	245-240	Introduction to Tourism	2
245-513	Quantity Food Production and Services	3	245-340	Development of Tourism Attraction	3
245-521	Food Service Equipment	2	245-341	Tourism Goods and Services	3
245-625	Hospitality Industry Law and Liability	3	245-344	Hospitality Marketing and Sales	3
308-206	Applied Food Sanitation	1	245-515	Lodging Administration	3
XXX-XXX	Electives	5	245-640	Psycho-social Dimensions of Tourism	3
			245-645	Geography of Tourism	3
			245-650	Human Habitat	3
			XXX-XXX	Electives	5

HOME ECONOMICS IN BUSINESS

School of Home Economics

Introduction

Home Economics in Business is a four-year program leading to a Bachelor of Science degree. The goal of this program is to develop competencies which will enable a person to function effectively as a member of a business organization. This task is accomplished by a combination of classes from Liberal Studies, Major Studies, General Electives and/or Minor.

Liberal Studies provides broad learning experiences in art, science, English, mathematics and the behavioral sciences. The courses taken in Major Studies depend on the concentration chosen. The five concentrations from which a student may select are: Food and Beverage Merchandising, Foods/Equipment, Food Science, Consumer Affairs or Interior Decorating. The number of elective credits varies depending on the number of credits required to complete the concentration. These electives can be used to expand knowledge in an area of interest, explore selected disciplines or to complete a Minor.

The Home Economics in Business program prepares individuals for various careers in business and public service in areas such as public relations, banking and finance, sales, food processing, food styling, home and industry equipment manufacturing, super-market management, journalism and interior decoration.

General Requirements

Bachelor of Science Degree

Total for graduation	128 credits
General Education	61 credits
Major (depending on concentration)	48-66 credits
Free Electives	1-19 credits

A minimum grade point average of 2.25 is required for graduation.

Program Requirements

General Education

61 credits required

160-206	Introduction to Financial Accounting	3
212-115	Introduction to Home Economics in Business	1
212-XXX	Senior Seminar in Home Economics in Business	1
326-101	Freshman English - Composition <i>or</i>	
326-111	Freshman English - Honors I	3
326-102	Freshman English - Reading and Related Writing <i>or</i>	
326-112	Freshman English - Honors II	3
326-346	Informational Writing	3
391-100	Fundamentals of Speech	2
391-508	Speech Skills for Business and Industry	2
160-330	Principles of Marketing <i>or</i>	
XXX-XXX	CLEP Score on Marketing	3
3XX-XXX	Any course with 3XX prefix	3

Select 3 credits from the following:

304-XXX	Any Art	1-4
360-XXX	Any Music	1-3
391-XXX	Any Theater	1-3
120-XXX	Any Media	1-4

Select 3 credits from the following:

326-348	American Literature	3
326-360	Modern American Literature	3
326-372	Women Writers	3
326-381	Recent American Literature	3
328-XXX	Any Foreign Language	1-4
329-XXX	Any Foreign Language	1-4

Select 3 credits from the following:

338-XXX	Any History	3
375-XXX	Any Government	3

Select 6 credits from the following:

212-250	Individual and Family Relations	3
303-220	Cultural Anthropology	3
387-110	Introductory Sociology	3
479-110	General Psychology	3

Select 5 credits from the following:

(include at least one laboratory)

308-XXX	Any Biology	1-5
311-XXX	Any Chemistry	1-5
372-XXX	Any Physics	1-5

Select 3 credits from the following:

320-201	General Economics	3
320-210	Principles of Economics I	3

Select 2 credits from the following:

354-141	Digital Computer Programming	2
XXX-XXX	Any Advance d Computer Course	2

Select 3 credits from the following:

365-201	Introduction to Philosophy	3
365-301	Introduction to Logic	3
365-375	Personal and Professional Ethics	3

Select 2 credits from the following:

366-1XX	Any 100 Level Physical Education (activity)	2
367-1XX	Any 100 Level Physical Education (activity)	2

Select 3 credits from the following:

150-600	Organizational Leadership	3
320-420	Labor Economics	3
479-582	Human Resource Management	3
320-421	Collective Bargaining and Labor Relations	2
479-483	Human Resource Development	2

Select 4 additional credits of mathematics appropriate to the concentration.

Major

Courses will be selected according to concentration(s) chosen.

Concentrations

48-66 credits required

To complete the program, a student selects one or more concentrations.

Food and Beverage Merchandising (48 credits)

229-124	Foods or	
229-240	Food Science	4
245-222	Institutional Food Purchasing	2
229-302	Beverage Industry: History, Sales, Employment	2
245-311	Quantity Food Production	3
229-212	Nutrition	3
245-521	Food Service Equipment	2
245-XXX	Food and Beverage Industry Purveying Systems	3
160-334	Salesmanship and Sales Management or	
214-XXX	Visual Merchandising	3
160-370	Principles of Advertising	3
170-280	Packaging Fundamentals	2
229-650	Food Processing	3
245-X98	Hotel and Restaurant Field Experience	2
308-206	Food Service and Environmental Sanitation	1
320-215	Principles of Economics II	3

Select 3 credits from the following:

160-318	Business Law I	3
160-355	Principles of Risk Management	3
245-625	Hospitality Industry Law and Liability	3

Select one of the following:

160-340	Business Finance or	
245-670	Hospitality Financial Analysis/Budget/Forecasting	3

Foods/Equipment (59 credits)

229-124	Foods or	
229-240	Food Science	4
229-212	Nutrition	3
229-308	Management of Food Production	3
229-446	Food Preservation	1
229-620	Food Styling	1-3
229-638	Experimental Foods	3
229-642	Advanced Foods	2
229-661	Social and Cultural Aspects of Food	2
245-250	Family Housing	3
245-311	Quantity Food Production	3
245-355	Energy and Household Equipment	3
245-521	Food Service Equipment	2
245-655	Major Kitchen Appliances	3
245-656	Microwave Oven	2
245-685	Demonstration Techniques	2
308-306	General Microbiology	4
308-506	Food Microbiology	3
311-125	Principles of Chemistry for Health Sciences or	
311-135	College Chemistry I	5
311-201	Organic Chemistry Lecture	3
311-203	Organic Chemistry/Laboratory	1
355-120	Introductory College Mathematics I	4
372-211	Introduction to Physics	2

Food Science (66 credits)

170-280	Packaging Fundamentals	2
229-212	Nutrition	3
229-240	Food Science	4
229-410	Advanced Nutrition	3
229-446	Food Preservation	1
229-638	Experimental Foods	3
229-642	Advanced Foods	2
229-650	Food Processing	3
245-311	Quantity Food Production	3
245-371	Food, Beverage and Labor Cost Controls	3
308-132	Physiology and Anatomy	4
308-306	General Microbiology	4
308-506	Food Microbiology	3
311-125	Principles of Chemistry for Health Sciences or	
311-135	College Chemistry I	5
311-201	Organic Chemistry Lecture	3
311-203	Organic Chemistry/Laboratory	1
311-511	Biochemistry	4
311-515	Food Chemistry	3
311-531	Quantitative Analysis	3
311-535	Instrumental Methods of Analysis	3
355-120	Introductory College Mathematics I	4
372-211	Introduction to Physics	2

Consumer Affairs (54-60 credits)

140-590	Product/Service Liability	2
212-355	Lifespan Human Development	3
242-201	Teaching Techniques in Home Economics	2
245-360	Consumer Economics	3
245-662	Consumer Protection	1
245-663	Consumer Law	1
320-215	Principles of Economics II	3
320-325	Economic and Business Statistics	3
326-306	Reporting and News Writing or	
326-346	Informational Writing or	
326-347	Critical Writing	3
326-425	Copy Editing and Preparation	2
479-579	Public Relations	2-3

Select 3 credits from the following:

160-334	Salesmanship and Sales Management	3
160-370	Principles of Advertising	3
160-679	Marketing Research	3

Complete credits in two of the following specific consumer areas:

Clothing and Textiles - 16 credits

214-140	Textiles	3
214-519	International Economic Trends in Textiles/Clothing	2
214-541	Fabric Maintenance	2
214-550	Textile Evaluation	3
214-617	Social/Psychological Aspects of Clothing	3
XXX-XXX	Appropriate electives	3

In General Education areas take:

311-115	General Chemistry	5
355-120	Introductory College Mathematics I	4

Economics Institutions - 13 credits

245-565	Consumer Aspects of Life Insurance	1
245-566	Consumer Aspects of Health Insurance	1
245-660	Consumer Credit	1
245-676	Family Finance	2
320-335	Personal Securities Investment	2
320-435	Money and Financial Markets	3
320-445	Public Finance	3

In General Education areas take:

355-120	Introductory College Mathematics I	4
---------	------------------------------------	---

Food and Nutrition - 14-16 credits

229-124	Foods	4
229-212	Nutrition	3
229-650	Food Processing	3
<i>Select one of the following:</i>		
229-630	Food Behavior <i>or</i>	
229-661	Social and Cultural Aspects of Food	2
<i>Select one of the following:</i>		
229-505	Nutrition for the Aged <i>or</i>	
229-633	Maternal and Child Nutrition <i>or</i>	
229-680	Community Nutrition	2-3
<i>In General Education areas take:</i>		
311-115	General Chemistry I	5
355-120	Introductory College Mathematics I	4
Energy and Equipment - 13-14 credits		
245-355	Energy and Household Equipment	3
245-656	Microwave Oven	2
<i>Select one of the following:</i>		
245-521	Food Service Equipment	2
245-655	Major Kitchen Appliances	3
<i>Select one of the following:</i>		
170-372	Heating and Air Conditioning <i>or</i>	
245-XXX	Energy Management in the Home	3
<i>In General Education areas take:</i>		
355-120	Introductory College Mathematics I	4
372-211	Introduction to Physics	3
Habitat - 13 credits		
245-250	Family Housing	3
245-350	Psycho-Socio Aspects of Housing	2
XXX-XXX	<i>Appropriate electives</i>	5
<i>Select 3 credits from the following:</i>		
245-436	Commercial and Residential Lighting	2
245-455	Kitchen Planning	2
245-681	Special Problems in Habitational Resources	2
245-X99	Independent Study	1-3
<i>In General Education areas take:</i>		
355-120	Introductory College Mathematics I	4
372-211	Introduction to Physics	3

Interior Decorating (56 credits)

130-221	Architectural Design I	3
160-334	Salesmanship and Sales Management	3
214-140	Textiles	3
214-227	Basic Merchandising	3
214-230	Merchandising Planning and Control	4
214-330	Home Furnishings Merchandising	2
214-527	Store Management	3
245-250	Family Housing	3
245-436	Commercial and Residential Lighting	2
304-100	Drawing I	3
304-101	Fundamentals of Design	3
304-202	Introduction to Art <i>or</i>	
304-522	Modern Art	3
304-204	Interior Design	3
304-304	Interior Design II	2
304-305	Presentation Techniques	3
304-503	Design	3
304-532	Economics of House Furnishing	3
304-533	Period Furnishings	3
335-119	Business Mathematics	4

Free Electives**1-19 credits required**

HOTEL AND RESTAURANT MANAGEMENT

School of Home Economics

Introduction

Hotel and Restaurant Management is one of America's fastest growing industries. Each year, the amount of leisure time increases for thousands of Americans, and with that increase, comes a growing demand on the hospitality industry. As existing lodging and dining facilities expand, new businesses are being started to accommodate more and more people who want new and better hospitality services.

Stout's specialized mission enables Hotel and Restaurant Management majors to receive a variety of training. The four-year curriculum is structured to allow for both practical and theoretical training, giving students specific skills needed to have successful management careers.

The program also provides studies in the liberal arts to give graduates a flexible background, enabling them to adapt to a wide variety of situations in today's rapidly changing society.

General Requirements Bachelor of Science Degree

Total for graduation	128 credits
General Education	52 credits
Major	73 credits
Free Electives	3 credits

The student must fulfill the English adequacy and speech proficiency requirements prescribed by the respective departments.

Work experience must be obtained through participation in the Field Experience program during the junior year and/or the summer between the junior and senior year. A minimum of two credits for 320 hours of approved work experience is required.

Students must attain a grade point of 2.0 or better in each of the courses within the program except the three credits of electives. It is recommended that course grades lower than 2.0 be repeated the following semester. In order for transfer courses to be accepted in the program, this same grade requirement must be met.

Students must maintain a 2.5 grade point average within major studies. Students will have until second semester of sophomore year to attain a 2.5 average.

Program Requirements

General Education

52 credits required

Required (26-27 credits)

320-210	Principles of Economics I	3
375-XXX	Any Political Science or	
320-XXX	Any additional Economics	3
320-325	Economics and Business Statistics or	
354-130	Elementary Statistics	2-3
326-101	Freshman English - Composition	3
326-102	Freshman English - Reading and Related Writing	3
355-119	Business Mathematics or	
355-123	Finite Mathematics with Applications	4
	(based upon results of UW System Math Placement Test)	
355-120	Introductory College Mathematics	4
	(based upon results of UW System Math Placement Test)	
366-340	First Aid or	
366-XXX	Any Physical Education or	
367-XXX	Any Physical Education	2
391-100	Fundamentals of Speech	2

Selectives (26 credits)

Select 2 credits from the following:

212-535	Seminar on Self Growth	2
391-204	Techniques of Group Leadership	2
391-208	Theory of Communication	2
391-210	Interpersonal Speech	2

Select 4-6 credits from the following:

(must include one laboratory experience)

308-XXX	Any Biology	1-4
311-XXX	Any Chemistry	1-5
372-XXX	Any Physics	1-5

Select 3 credits from the following:

479-110	General Psychology	3
479-150	Humanistic Psychology	3
479-281	Environmental Psychology	3

Select 3 credits from the following:

212-250	Individual and Family Relations	3
303-220	Cultural Anthropology	3
387-110	Introductory to Sociology	3

Select 5 credits from at least two of the following:

304-XXX	Any Art History	1-3
304-XXX	Any Art	1-3
326-XXX	Any Literature	1-3
328-XXX	Any French or	
329-XXX	Any Spanish	1-4
338-XXX	Any History	1-3
360-XXX	Any Music (non-performance)	1-3
391-XXX	Any Theater	1-3
500-XXX	Any Interdisciplinary Studies	2

Select 3 credits from the following:

336-104	World Geography	3
338-120	Early United States History	3
338-121	Modern United States History	3

Select 3 credits from the following:

365-301	Introduction to Logical Thinking	3
365-375	Professional Ethics	3

Select 3 credits from the following:

326-320	Business Writing	3
326-346	Informational Writing	3
326-347	Critical Writing	3

Major

73 credits required

Operational Management (37 credits)

130-180	Hospitality Facility Planning	2
150-450	Maintenance Management	2
160-318	Business Law I	3
229-124	Foods	4
229-308	Management of Food Production	3
245-100	The Role of Management in the Hospitality Industry	2
245-222	Institutional Food Purchasing	2
245-240	Introduction to Tourism and the Travel Industry	2
245-311	Quantity Food Production	3
229-550	Fast Food Operations or	
245-312	Restaurant Operational Management	3
245-341	Tourism Goods and Services or	
245-344	Hospitality Marketing and Sales	3
245-498	Field Experience	2
245-600	Integrated Management Systems-Hospitality	2
245-625	Hospitality Industry Law and Liability	3
308-206	Food Service and Environmental Sanitation	1

Personnel Management (9 credits)

245-205	Hospitality Organization Management	3
Select 6 credits from the following:		
150-600	Organizational Leadership	3
245-626	Hospitality Industry Employee and Labor Relations	2
479-582	Human Resource Management	3

Financial Management (12 credits)

160-206	Principles of Accounting I	3
245-370	Hotel and Restaurant Accounting	3
245-371	Food, Beverage and Labor Cost Controls	3
245-670	Hospitality Financial Analysis Budget Forecasting	3

Professional Electives (15 credits)

Select 15 credits of professional electives with program director approval.

Electives

3 credits required

Select 3 additional credits from any department within the University.

INDUSTRIAL TECHNOLOGY

School of Industry and Technology

Introduction

Stout's Industrial Technology degree is a broadly based program designed to prepare individuals for a variety of responsible industrial positions. Graduates have gained recognition and success in many areas of industry. Typical assignments include production or construction supervision, quality assurance, packaging, process engineering, methods engineering, systems analysis, production control, cost estimating, purchasing, product design, sales and service, plant engineering, industrial relations, tools design, prototype development, and technical communications.

The program provides for learning experiences to develop competencies in each of four broad areas: knowledge of the characteristics of materials and manufacturing processes; understanding of management principles and their application to industrial problems; awareness of the environmental and sociological implications and those psychological principles which are important in working with, communicating with, motivating, and supervising people; and skill in utilizing the mathematical and physical sciences to understand and solve technological and economic problems found in industry.

General Requirements Bachelor of Science Degree

Total for graduation	132 credits
General Education	55 credits
Major	36-40 credits
Concentrations	34-40 credits
Free Electives	1-7 credits

Program Requirements General Education

55 credits required

English (10 credits)

The requirement will vary depending on the student's score on the English Placement Test (EPT) and the recommendation of the student's English adviser as follows:

1. EPT scores of less than 37: 326-090, 101, 102 and 4 additional credits.
2. EPT scores of 37 but less than 55: 326-101, 102 and 4 additional credits.
3. EPT scores of 55 or less than 65: 326-101, 102 and 3 credits of advanced writing and 1 credit in a writing module, seminar or other 1 credit suggested by the English department.
4. EPT scores of 65 or higher: 326-111, 112 or 101 and 102 or CLEP (College Level Examination Program), plus up to 4 additional credits of English to be determined by the student and the English adviser.

Speech (4 credits)

391-100	Fundamentals of Speech	2
391-XXX	Speech Skill	2
(not 391-310 Introduction to Speech Correction)		

Environment

Select at least 2 credits from the following:

170-301	Technology, Resources, Environment	2
308-122	Biology - An Environmental Approach	3
308-150	Man and the Environment	2
308-350	Ecology	3
311-553	Environmental Chemistry	3
XXX-XXX	Any Approved Elective	2

Personal Development

Select at least 2 credits from the following:

212-250	Individual and Family Relations	3
229-202	Fundamentals of Nutrition	2
304-XXX	Any Studio Art	2
32X-XXX	Any Foreign Language	2
360-XXX	Any Music Elective	2
367-XXX	Any Physical Education	2
479-570	Assertive Training Procedures	2
479-571	Introduction to Health Psychology	3
XXX-XXX	Any Approved Elective	2

Anthropology/Sociology

Select 3 credits from the following:

303-220	Introduction to Cultural Anthropology	3
387-110	Introductory Sociology	3

Humanities

Select at least 2 credits from the following:

304-XXX	Any Art History	3
326-XXX	Any Literature	3
338-XXX	Any History	2-3
365-XXX	Any Philosophy	3
391-XXX	Any Theater	1-2

Chemistry

Select 5 credits from the following:

311-115	General Chemistry	5
311-125	Principles of Chemistry for Health Sciences	5
311-135	College Chemistry I	5

Economics

Select 3 credits from the following:

320-201	General Economics	3
320-210	Principles of Economics I	3

Statistics

Select at least 2 credits from the following:

320-325	Economic and Business Statistics	3
354-130	Elementary Statistics	2
354-530	Statistical Methods	3

History/Political Science

Select at least 3 credits from the following:

338-XXX	Any additional History or	
375-210	Government	3

Computer Programming

Select at least 2 credits from the following:

354-141	Digital Computer Programming or Any higher numbered programming course	2
---------	---------------------------------------------------------------------------------	---

Calculus

Select at least 4 credits from the following:

355-153	Calculus I or	
355-156	Calculus and Analytic Geometry I	4-5

Physical Education and Health (2 credits)

Select 1 credit from the following:

367-XXX	Any Physical Education	1
---------	------------------------------	---

Select 1 credit from the following:

366-101	Health Survey	1
366-102	Personal Health	2
366-340	ARC Standard First Aid and Personal Safety	1

Physics

Select one group of at least 8 credits:

Group 1

372-231	General Physics I and	
372-232	General Physics II	8

Group 2

372-241	College Physics I and	
372-242	College Physics II	10

Group 3

372-281	University Physics I and	
372-282	University Physics II	10

Psychology

Select 3 credits from the following:

479-110	General Psychology	3
479-150	Humanistic Psychology	3

Major

36-40 credits required

Professional Studies (25-27 credits)

150-150	Industrial Organization	2
150-200	Production/Operations Management	3
150-500	Engineering Economy	3
150-600	Organizational Leadership	3
160-200	Financial-Managerial Accounting - Industrial Technology	3
160-330	Principles of Marketing	3
XXX-XXX	Senior Capstone Experience	2

Select one course from the following:

320-420	Labor Economics or	
320-421	Collective Bargaining and Labor Relations	2-3

Select one course from the following:

479-483	Human Resource Development or	
479-582	Human Resource Management	2-3

Select one course from the following:

140-581	Occupational Safety/Loss Control or	
140-588	Construction Safety	2

Basic Technology Requirements (11-13 credits)

110-204	Electricity/Electronics Fundamentals	3
130-110	Drafting or	
130-120	Construction Drafting	2

Select an additional 6-8 credits, depending on choice of concentration. See concentrations for complete listing. Credits beyond the 11 credit minimum may be applied to professional/technical electives in the concentrations.

Concentrations

Students may elect one of the following concentrations or complete the degree with electives chosen in consultation with the program director.

Building Construction (37 credits)

130-424	Architectural Technology	3
130-526	Building Construction Specifications	2
130-527	Site Engineering	2
150-570	Estimating and Analyzing Construction Costs	2
150-670	Systems Approach to Construction Management	3
150-X98	Field Experience	2
160-573	Legal Aspects of Construction	3
170-270	Light Building Construction	2
170-370	Commercial Building	2
170-373	Concrete Technology	3

Select 2 credits from the following:

110-103	Power Mechanics	2
110-260	Introduction to Fluid Power	2
170-102	Manufacturing Materials and Processes I	3

Select 10 additional professional/technical credits.

Electronics (36 credits)

110-270	Circuit Analysis	4
110-371	Solid State Electronics	3
110-381	Linear Electronic Circuits	3
110-473	Digital Logic and Switching	3
355-154	Calculus II or	
355-157	Calculus and Analytic Geometry II	4-5

Select 6 credits from the following:

110-103	Power Mechanics	2
110-260	Introduction to Fluid Power	2
130-140	Graphic Arts	2
170-102	Manufacturing Materials and Processes I	3
170-280	Packaging Fundamentals	2

Select 13 additional professional/technical credits.

General (34 credits)

Select 6 credits from the following:

110-103	Power Mechanics	2
110-260	Introduction to Fluid Power	2
120-504	Elementary Photography	2
130-140	Graphic Arts	2
170-102	Manufacturing Materials and Processes I	3
170-270	Light Building Construction	2
170-280	Packaging Fundamentals	2

Select from Groups I through VI as follows:

Group I Select 4 credits from the following:

130-424	Architectural Technology	3
150-530	Material Handling	3
150-550	Plant Layout	3
170-275	Construction Materials	2
170-370	Commercial Building	4

Group II Select 6 credits from the following:

150-220	Quality Control for Service Industries	3
150-505	Product and Inventory Control	3
150-510	Production Processing	3
150-520	Quality Assurance	3
150-540	Time and Motion Study	3
170-103	Manufacturing Materials and Processes II	3
170-504	Computer Aided Manufacturing	6

Group III Select 2 credits from the following:

130-246	Typography	2
130-251	Composition	3
130-366	Image Transfer	3
170-315	Packaging Materials	3
170-380	Consumer Packaging Systems or	
170-385	Packaging Machinery	2

Group IV Select 4 credits from the following:

110-551	Introduction to Microprocessors	3
110-552	Electronic Communications	3
110-553	Instrumentation and Control	3
110-554	Electronics/Robotics	3
130-103	Communication and Information Technology	3
130-311	Technical Drafting	3
130-504	Communications and Information Systems	4

Group V Select 6 credits from the following:

150-514	Industrial Enterprise Practicum	6
160-334	Salesmanship and Sales Management	3
160-337	Purchasing	3
160-370	Principles of Advertising	3
160-410	Manufacturing Cost Analysis	3

Group VI Select 6 credits from the following:

130-290	Mechanics of Solids I or	
130-291	Mechanics of Solids II or	
170-205	Design for Industry	6
372-325	Strength of Materials	3
372-531	Statics	3

Select additional credits in consultation with program director to bring degree total to at least 130.

Graphic Arts Management (36 credits)

120-504	Elementary Photography	2
130-140	Graphic Arts	2
170-280	Packaging Fundamentals	2

Select 20 credits from the following:

130-246	Typography	2
130-251	Composition	3
130-355	Line and Halftone Photography	2
130-366	Image Transfer	3
130-370	General Binding	2
130-475	Printing Economics	3
130-543	Graphic Arts Production Techniques	2
130-557	Color Separation	2
130-XXX	Industrial Experience	2

Select 10 additional professional/technical credits.

Industrial Distribution (36 credits)

160-334	Salesmanship and Sales Management	3
160-336	Industrial Marketing Management	3
160-438	Industrial Distribution	3
160-568	Industrial Distribution Seminar	2
391-236	Listening	2

Select 6 credits from the following:

110-103	Power Mechanics	2
130-100	Communications or	
130-103	Communication and Information Technology	2-3
XXX-XXX	Technical Selective	2

Select 17 additional professional/technical credits.

Manufacturing Engineering (38 credits)

150-505	Product and Inventory Control	3
150-510	Production Processing	3
150-520	Quality Assurance	3
150-540	Time and Motion Study	3
160-410	Manufacturing Cost Analysis	3
170-102	Manufacturing Materials and Processes I	3
170-103	Manufacturing Materials and Processes II	3
170-280	Packaging Fundamentals	2
354-530	Statistical Methods	3

Select 5 credits from the following:

130-290	Mechanics of Solids I or	
130-291	Mechanics of Solids II or	
372-325	Strength of Materials	3
130-592	Mechanics of Machinery I or	
372-533	Dynamics	3
130-593	Mechanics of Machinery II	3
311-531	Quantitative Analysis	3
311-541	Chemistry of Materials	3
372-222	Heat and Thermodynamics	2
372-531	Statics	3

Select 8 additional professional/technical credits.

Mechanical Power Transmission (36 credits)

110-103	Power Mechanics	2
110-260	Introduction to Fluid Power	2
110-303	Mechanical Power Transmission	3
110-348	Motors and Generators	2
110-551	Introduction to Microprocessors	3
110-553	Instrumentation and Control	3
110-603	Problems in Power Transmission	3
150-530	Material Handling	3
160-334	Salesmanship and Sales Management	3
170-102	Manufacturing Materials and Processes I	3

Select 9 additional professional/technical credits.

Packaging (40 credits)

130-140	Graphic Arts	2
170-102	Manufacturing Materials and Processes I	3
170-280	Packaging Fundamentals	2
170-315	Packaging Materials	3
170-380	Consumer Packaging Systems	3
170-381	Distribution Packaging	3
170-480	Packaging Design and Evaluation	3
170-580	Packaging Development	3
170-585	Packaging Seminar	2
304-101	Fundamentals of Design	3

Select 3 credits from the following:

308-306	General Microbiology	4
311-541	Chemistry of Materials	3
372-325	Strength of Materials	3

Select 10 additional professional/technical credits.

Plant Engineering (36 credits)

110-260	Introduction to Fluid Power	2
130-424	Architectural Technology	3
150-450	Maintenance Management	2
150-550	Plant Layout	3
150-X98	Field Experience - Series or	
150-489	Business and Industrial Internship or	
150-X49	Cooperative Education Experience	2
170-102	Manufacturing Materials and Processes I	3
311-553	Environmental Chemistry	3
372-222	Heat and Thermodynamics	2
372-325	Strength of Materials	3

Select 2 credits from the following:

110-103	Power Mechanics	2
110-303	Mechanical Power Transmission	3
170-103	Manufacturing Materials and Processes II	3
170-280	Packaging Fundamentals	2

Select 2 credits from the following:

110-506	Energy Management	2
150-530	Material Handling	3
170-372	Heating and Air Conditioning	3

Select 9 additional professional/technical credits.

Product Development (37 credits)

130-290	Mechanics of Solids I or	
130-291	Mechanics of Solids II or	
372-325	Strength of Materials	3
130-311	Technical Drafting	3
130-532	Mechanical Design	4
130-537	Mechanical Design Drafting	2
130-592	Mechanics of Machinery I or	
372-533	Dynamics	3
130-593	Mechanics of Machinery II	3
372-531	Statics	3

Select 6 credits from the following:

110-103	Power Mechanics	2
110-260	Introduction to Fluid Power	2
130-140	Graphic Arts	2
170-102	Manufacturing Materials and Processes I	3
170-103	Manufacturing Materials and Processes II	3

Select 10 additional professional/technical credits.

Quality Technology (39 credits)

110-260	Introduction to Fluid Power	2
150-220	Quality Control for Service Industries	3
150-520	Quality Assurance	3
150-620	Quality Assurance - Practicum	2
170-102	Manufacturing Materials and Processes I	3
170-508	Industrial Metrology	3
311-541	Chemistry of Materials	3
372-325	Strength of Materials	3

Select 17-19 additional basic technology and professional/technical credits.

Special (36 credits)

Select 6 credits from the following:

110-103	Power Mechanics	2
110-260	Introduction to Fluid Power	2
120-504	Elementary Photography	2
130-140	Graphic Arts	2
170-102	Manufacturing Materials and Processes I	3
170-103	Manufacturing Materials and Processes II	3
170-270	Light Building Construction	2
170-280	Packaging Fundamentals	2

Select 20 credits in approved concentration core.

Select 10 additional professional/technical credits.

Technical Communications (36 credits)

110-551	Introduction to Microprocessors	3
120-504	Elementary Photography or	
120-561	Advanced Graphic Production	2
130-103	Communication and Information Technology or	
391-208	Theory of Communication	3
130-140	Graphic Arts	2
130-414	Technical Illustrating	3
326-425	Copy Editing and Preparation	2

Select 4 credits from the following:

110-103	Power Mechanics	2
110-260	Introduction to Fluid Power	2
110-303	Mechanical Power Transmission	3
130-234	Interactive Graphics	2
170-102	Manufacturing Materials and Processes I	3
170-222	Industrial Ceramics	3

Select 7 credits from the following:

110-552	Electronic Communications	3
120-630	Audio/Film/TV Production Fundamentals	3
130-246	Typography	2
130-251	Composition	3
130-504	Communications and Information Systems	1-3
130-636	Computer Assisted Design Problems	2
198-560	Training Systems in Business and Industry	3
326-535	Writing Technical Manuals	3
354-240	Intermediate Computer Programming	3
354-246	Computer Programming - COBOL	3

Select 10 additional professional/technical credits.

Free Electives**1-7 credits**

Candidates for the degree should select their electives to complement objectives of their concentration. These credits can be from any department in the University.

Off-Campus Learning Experiences

Three types are available: Field Experience; Cooperative Education Experience; and Internship. Students are encouraged to plan early for this learning experience since competition for industry-related sites is keen and those with the best preparation are selected. For additional details see page 12.

MARKETING EDUCATION

School of Industry and Technology

Introduction

The field of marketing requires training for owners, managers and employees engaged primarily in marketing goods and services. Marketing Education at Stout provides the teachers to train the work force.

Marketing Education is one area of career education supported by local, state and federal funds. Teachers graduating with this major are prepared to teach marketing education at the secondary and post-secondary levels. Many graduates enter marketing positions in business and industry.

Marketing Education students have five options from which to choose in order to fulfill their major requirements – General Marketing/Retailing, Fashion Merchandising, Hotel and Restaurant Management, International Marketing, or an option developed with the program director to meet a student's individual need.

General Requirements Bachelor of Science Degree

Total for graduation	130 credits
General Education	48 credits
Major	47-48 credits
Concentration	34-36 credits

Although it is not a requirement for graduation, students should be aware of the fact that they must acquire a minimum of 4,000 hours of occupational experience before they can be certified to teach marketing education in Wisconsin and Minnesota.

Students must fulfill the English adequacy and speech proficiency requirements. Students must pass the pre-professional skills test to receive teacher certification.

Specific course requirements and additional information about minors and/or concentrations can be obtained from the program director.

Students must have a 2.75 or higher cumulative grade point average to enter the teacher education program.

Participation in Collegiate DECA is required.

* Grade of "B" (2.67) or higher required.

Program Requirements

General Education

48 credits required

Core Courses (14 credits)

326-101	Freshman English – Composition <i>or</i>	
326-111	Freshman English – Honors I	3
326-102	Freshman English – Reading and Related Writing <i>or</i>	
326-112	Freshman English – Honors II	3
326-XXX	Any Literature	3
391-100	Speech	2
479-110	General Psychology	3

Fine Arts (1-3 credits)

Select one from the following:

120-504	Photography	2
304-XXX	Any Art	2-3
360-XXX	Any Music	1-3
391-XXX	Any Theater	2-3

Natural Sciences (6 credits)

Biology Select one from the following:

308-122	Biology	3
308-132	Physiology and Anatomy	4
308-142	Botany	4
308-150	Man and Environment	2
308-152	Zoology	4
308-332	Genetics	2
308-342	Community Hygiene	2
308-358	Introduction to Pharmacology	2

Chemistry/Physics Select one from the following:

311-115	Chemistry	5
311-135	College Chemistry I	5
311-201	Organic Chemistry <i>and</i>	
311-203	Organic Chemistry Laboratory	5
372-211	Physics	3
372-254	Earth Physics	2
372-255	Meteorology	2

Humanities (7-11 credits)

Select two from the following:

328-XXX	Any French (328-100 not acceptable)	4
329-XXX	Any Spanish (329-100 not acceptable)	2-4
330-XXX	Any Chinese	2-4
338-XXX	Any History	2-3
365-XXX	Any Philosophy	3

Select one from the following:

338-210	Modern World <i>or</i>	
303-220	Cultural Anthropology	3

Mathematics (4 credits)

Select one from the following:

355-118	Concepts of Mathematics	4
355-120	Mathematics I	4
355-121	Mathematics II <i>or</i>	
355-1XX	Any Mathematics higher than 355-121	3-5

Health (1 credit)

366-XXX	Any Health	1
---------	------------------	---

Social Science (9 credits)

320-210	Principles of Economics I	3
320-215	Principles of Economics II	3
375-210	Government	3

Writing/Speech Selectives (5 credits)

Writing Select one from the following:

326-320	Business Writing	3
326-346	Informational Writing	3
326-515	Technical Writing	3

Speech Select one from the following:

391-200	Persuasive Speaking	2
391-204	Techniques of Group Leadership	2
391-508	Speech Skills for Business and Industry	2
391-512	Speech Skills for Education	2

General Education Electives (1-3 credits)**Major**

47-48 credits required

196-201	Introduction to Marketing Education*	3
196-202	Supervision of DECA*	3
196-301	Marketing Education Methods*	4
196-401	Marketing Education Curriculum*	3
196-409	Marketing Education Student Teaching*	16
196-555	Marketing Education Seminar*	3
199-502	Principles of Vocational Education	2
199-560	Cooperative Occupational Education	2
421-303	Educational Psychology	2
421-326	Foundations of Education	2
421-536	Working with Culturally Different	2
421-576	Cross-Cultural Field Experience	1
	(or comparable experience)	
431-582	Secondary Reading and Language	2
431-630	Mainstreaming	3
XXX-XXX	Electives	1-3

Concentrations

Students may elect one of the following concentrations or complete the degree with electives chosen in consultation with the program director.

General Marketing/Retailing (34 credits)

160-206	Introduction to Financial Accounting	3
160-207	Corporate and Managerial Accounting	3
150-304	Principles Management	3
150-600	Organizational Leadership	3
160-318	Business Law I	3
160-330	Principles of Marketing	3
160-334	Salesmanship and Sales Management	3
160-370	Principles of Advertising	3
196-501	Marketing Education-Project Method	3
479-582	Human Resource Management	3

Select from 4 to 6 credits:

160-355	Principles of Risk Management	2
160-365	Principles of Real Estate	2
160-679	Marketing Research	3
160-690	Administrative and Business Policies	3
320-325	Economic and Business Statistics	3
320-550	Managerial Economics	3

Fashion Merchandising (39 credits)

150-304	Principles of Management	3
150-600	Organizational Leadership	3
160-206	Introduction to Financial Accounting	3
160-207	Corporate and Managerial Accounting	3
160-330	Principles of Marketing	3
160-334	Salesmanship and Sales Management	3
160-370	Principles of Advertising	3
196-501	Marketing Education-Project Method	3
214-120	Introduction to Apparel/Textiles/Merchandising	2
214-227	Basic Merchandising	3
214-329	Fashion Merchandising Promotion	3
214-339	Apparel Merchandising	1
479-582	Human Resource Management	3
	Select from 3 to 6 credits:	
214-140	Textiles	3
214-230	Merchandise Planning and Control	4
214-398	Fashion Merchandising Field Experience	2
214-519	International Economic Trends in Textiles/Clothing	2
214-625	Mass Merchandising	2

Hotel and Restaurant Management (39 credits)

150-304	Principles of Business Management	3
150-600	Organizational Leadership	3
160-206	Introduction to Financial Accounting	3
160-207	Corporate and Managerial Accounting	3
160-330	Principles of Marketing	3
160-334	Salesmanship and Sales Management	3
160-370	Principles of Advertising	3
196-501	Marketing Education Project Method	3
245-100	The Role of Management in Hospitality Industry	2
245-200	Introduction to Property Management	2
245-205	Hospitality Organization Management	3
245-240	Introduction to Tourism and the Travel Industry	2
479-582	Human Resource Management	3
	Select from 3 to 6 credits:	
229-124	Foods	4
245-201	Hospitality Housekeeping Management	2
245-202	Front Office Management	3
245-301	Bar Management	2
245-344	Hospitality Marketing and Sales	3

International Marketing

150-304	Principles of Management	3
150-600	Organizational Leadership	3
160-206	Introduction to Financial Accounting	3
160-207	Corporate and Managerial Accounting	3
160-330	Principles of Marketing	3
160-334	Sales and Sales Management	3
160-370	Principles of Advertising	3
160-585	International Marketing	3
196-501	Marketing Education Project Method	3
320-680	International Trade	3
375-340	International Relations	3
479-582	Human Resource Management	3
	Select 3-6 credits from the following:	
160-260	Introduction to International Business	3
303-220	Cultural Anthropology	3
336-104	World Geography	3
375-270	Introduction to Comparative Government	3
338-210	Modern World History	3
375-260	Problems of U.S. Foreign Policy	3
XXX-XXX	Any Foreign Language	4

PSYCHOLOGY

School of Education and Human Services

Introduction

Psychology, as a program, is the systematic study of behavior, particularly the behavior of individuals – their actions, reactions and cognitions. It has as its overriding goal the preparation of students to contribute to the improved condition of man. Students acquire competencies that lead to employment wherever psychology is applied in educational institutions, public and private agencies, business and industry. Students entering the program should realize that they must obtain graduate level education or other advanced training before they will be accepted as professional psychologists.

The Psychology program is flexible. Students are given the opportunity to develop a personal program plan centered around their individual needs and goals. With careful planning, students may include self-planned concentrations in their programs in such diverse areas as counseling foundations, biofeedback technology, human services, family issues, industrial psychology and many others. All students are expected to include a core of study in the fundamental principles of human behavior in their programs and each is expected to develop literacy in the arts, humanities, natural sciences, and social sciences. Each student is also expected to develop and demonstrate effective communication skills as a part of the program's requirements.

After entering the Psychology program, all students prepare and submit a tentative plan for the remainder of their undergraduate program as a part of their activities in Psychology Seminar I. This tentative plan is based on their particular personal, vocational and professional interests and goals and is developed with the guidance of the Psychology program director and Psychology faculty.

Non-Traditional Learning Experiences In recognition of the value that may be derived from learning experiences that take place outside of the traditional classroom, the psychology program requires all students to complete at least one field experience. This involves a working/learning activity and is often completed during a summer break. In addition, the program requires or encourages students to participate in additional varieties of learning activities including independent study, internships, foreign study, exchange programs and others.

Senior Research Investigation As a culminating experience in the program, in conjunction with Psychology Seminar III, students conduct and report an original research investigation pertinent to Psychology and to their particular interests. This project provides the opportunity for students to practice skills they have acquired and to apply the knowledge they have attained in their studies.

General Requirements Bachelor of Arts Degree

Total for graduation	130 credits
General Education	70 credits
Major	40 credits
Electives	20 credits

* Courses conducted primarily for Psychology majors and minors. All Psychology students are strongly advised to include a selection of these courses in their program.

Program Requirements General Education

70 credits required

Communications (25 credits)

Suggested courses include fundamental English courses and advanced writing courses; fundamental and advanced speech courses; foreign languages; basic statistics; computer programming; journalism; graphic arts; audiovisual communications; reading courses; and others. Students are strongly advised to develop a variety of communication skills involving many different modes of communication.

Fine Arts, Physical Education and Humanities (15 credits)

Suggested courses include art and music appreciation courses; literature courses; philosophy courses; and physical education courses which contribute to good personal health and the development of recreation skills. Students are strongly advised to plan at least one literature course and one philosophy course in this area of their program plan.

Mathematics, Natural and Physical Sciences (15 credits)

Students are strongly advised to include at least one college level math course and one laboratory science course. Courses in genetics, physiology, anatomy, sexual biology, animal behavior, and organic chemistry are particularly appropriate for Psychology students. Applied Mathematics courses (e.g. Computer Programming, Statistics, or others) cannot be used for electives in this category, but with planning, may be used as communications credit.

Social Sciences (15 credits)

Students are strongly advised to include at least one sociology course and a balance of courses in history, economics, political science, and anthropology in their program plan.

Major

40 credits required

All students enroll in a continuing seminar as a part of their program. As they progress through these seminars, they develop new competencies and demonstrate their achievements. While in Psychology Seminar I, students plan their four-year programs and take a core of required courses: 479-110, 479-120, 479-150, and 479-190. After submitting their program plan and completing the required courses, they progress to Psychology Seminar II.

Required Courses (18 credits)

479-100	Psychology Seminar I: Foundations	1
479-110	General Psychology	3
479-120	Psychology: Its History and Systems	3
479-150	Humanistic Psychology	3
479-190	Psychology Methods I	3
479-300	Psychology Seminar II	1
479-400	Psychology Seminar III	1
479-X98	Psychology Field Experience	2
479-X99	Independent Study (at least)	1

Advanced, Elective Courses (22 credits)

479-251	Child Psychology	3
479-281	Environmental Psychology	3
479-390	Experimental Psychology*	3
479-460	Personality and Mental Health	3
479-484	Introduction to Behavior Modification	2
479-530	Psychology of Learning*	3
470-535	Motivation and Emotion*	3
479-540	Psychology of Individual and Group Differences	3
479-552	Adolescent Psychology	3
479-561	Abnormal Psychology	3
479-570	Assertive Training Procedures	2
413-571	The Psychology of Marriage and the Family	2
479-574	Psychology of Women	2
479-581	Industrial Psychology	2
479-632	Perception*	3
479-690	Psychological Measurement*	3
326-541	Psycholinguistics	3
387-250	Social Psychology	3
413-501	Introduction to Guidance	2
413-XXX	One other Counseling course	2-3
421-303	Educational Psychology	2
421-XXX	One other Education course	2-3
459-101	Introduction to Rehabilitation	3
459-XXX	One other Vocational Rehabilitation course	2-3
XXX-XXX	Behaviorally related courses in Life Sciences (e.g. Animal Behavior, Neuroanatomy, Psychobiology)	2-3

Others as appropriate to individual program plans.

Electives

20 credits required

As much as possible, the courses in this area of the program are free electives. The particular courses students take for this area depend on their choice of a minor, self-planned concentrations and personal goals. Many courses in the School of Home Economics and the School of Industry and Technology may help students in Psychology to develop important competencies. These are suggested to students in separate communications.

Minor Studies

Students in the Psychology program are required to complete a minor program. They may elect to complete one of the minor programs offered in various departments at Stout, or with the program director's advice and approval, they may substitute a preplanned program of work developed around a particular concept or process. The minor program overlaps other areas of the program and is not a separate selection of courses beyond the three areas described above.

TECHNOLOGY EDUCATION

School of Industry and Technology

Introduction

Technology Education is a Bachelor of Science degree program consisting of 133 semester credits of general, professional and technical course work. The program leads to teaching certification in all 50 states. Although this program is designed to lead to an education degree, graduates find challenging career opportunities in business and industry as well. Students study fields such as communication, construction, manufacturing and transportation. They work with technologies such as computers, robots and lasers and with more conventional equipment used in processing materials, energy and information. Students are required to complete at least 49 credits of general education in areas such as English, mathematics, science, speech and social studies. They are also required to complete 38 credits of professional education in areas of curriculum and instruction, human behavior and student teaching in a secondary school. Forty-three credits of technical work are also required. Of this, 35 credits are prescribed for all students in the majors and eight credits are electives to permit additional study in a selected area of communication, construction, manufacturing or transportation.

General Requirements Bachelor of Science Degree

Total for graduation	133 credits
General Education	49 credits
Major	81 credits
Free Electives	3 credits

Students must have a cumulative grade point average of 2.75 or higher to be admitted to advanced standing for teacher education. Graduation requires a 2.75 overall grade point average, excluding clinical and preclinical experiences. See pages 14 and 15 for additional information.

Participation in a related organization is required.

Program Requirements General Education

49 credits required

308-XXX	Any Biology	2
311-115	General Chemistry I	5
320-201	General Economics	3
326-XXX	Any Advanced Writing	3
326-XXX	Any Literature	3
326-101	Freshman English - Composition	3
326-102	Freshman English - Reading and Related Writing	3
338-210	Modern World History	3
355-121	Introductory College Mathematics II	4
366-101	Health Survey	1
372-231	General Physics	4
375-210	Government	3
387-110	Introductory Sociology	3
391-100	Fundamentals of Speech	2
391-XXX	Any Advanced Speech	2
479-110	General Psychology	3

Fine Arts (2 credits)

120-504	Photography	2
304-XXX	Any Art	2
360-XXX	Any Music	2
391-XXX	Any Theater	2

Major

81 credits required

Technical (43 credits)

110-204	Electricity-Electronics Fundamentals	3
110-501	Transportation	2
110-504	Energy Technology	3
110-555	Electronics Systems Applications	3
130-103	Communication and Information Technology	3
130-110	Drafting	2
130-504	Communication and Information Systems	3
150-514	Industrial Enterprise Practicum	3
170-102	Manufacturing: Materials and Processes I	3
170-103	Manufacturing: Materials and Processes II	3
170-205	Design for Industry	2
170-270	Light Building Construction	2
170-620	Research and Development	2
XXX-XXX	Technical Electives	8

Professional Education (38 credits)

190-160	Introduction to Technology Education	2
190-205	Methods of Teaching Technology Education	2
190-405	Curriculum Development in Technology Education	2
190-406	Instructional Evaluation in Technology Education	2
190-409	Student Teaching	8
413-501	Introduction to Guidance	2
421-303	Educational Psychology	2
421-426	Foundations of Education	2
421-536	Working With the Culturally Different	2
421-576	Field Experience - Cross Cultural Experience	1
421-582	Secondary Reading and Language Development	2
431-630	Mainstreaming Special Students	3

Free Electives

3 credits required

Select courses offered at Stout or those approved for transfer.

Vocational Certification

A student who wishes to become certifiable to teach an advanced level occupational skills course in Wisconsin must complete this degree program, a course in Principles of Vocational, Technical and Adult Education and, a course in Organization and Administration of Cooperative Education Programs; the student must also have a minimum of 2,000 hours of related work experience.

VOCATIONAL REHABILITATION

School of Education and Human Services

Introduction

The main objective of this program is to provide the field of rehabilitation with baccalaureate level personnel who have the competencies necessary to help persons with disabilities optimize their vocational potential. A general listing of these competencies includes:

1. Knowledge of the history, philosophy and development of the rehabilitation movement; knowledge of the rehabilitation process as it exists in various settings, including sheltered workshops, rehabilitation facilities, private rehabilitation, vocational rehabilitation agencies; knowledge of mental, physical, and social disabilities plus the vocational limitations of these disabilities; knowledge of, and ability to utilize community resources to assist the handicapped; knowledge of, and ability to relate to allied professions: medicine, psychology, social work, physical therapy; and knowledge of, and ability to utilize occupational information and career planning methods.
2. Elementary skill in the use of vocational evaluation techniques; elementary skill in work adjustment and counseling techniques; and elementary skill in utilizing job placement and follow-up procedures for the handicapped.
3. Ability to interact effectively with persons with disabilities. This could include persons with physical, emotional and social disabilities such as: mental illness, mental retardation, blindness, deafness, alcoholism, epilepsy, and those who have committed criminal offenses. The graduates of this program are employed in sheltered workshops, rehabilitation facilities, state vocational rehabilitation agencies, private rehabilitation, correctional centers, business and industry, adult day care centers, mental health clinics, halfway houses, and a variety of other settings serving the handicapped. Students who complete Special Education Certification are endorsed for Wisconsin licensure to teach EMR and TMR students grades 6-12. Opportunities for advancement to supervisory and administrative positions are excellent. Graduate study in rehabilitation is available in more than 80 colleges and universities.

Program Policies All General Education courses followed by an asterisk, all Professional component courses, and all Restricted Elective courses require a 2.0 or better. Students must maintain a 2.5 grade point average in the Professional component and Restricted electives after 90 credits to continue in major.

Students must select their concentration option by the end of the first semester of their junior year; including development and signed approval of an Individualized Concentration. Students who do not complete a concentration must submit a written plan showing development of a coherent selection of coursework consistent with the objectives of the degree. The plan must be submitted and approved by the program director by the end of the first semester of the junior year.

General Requirements Bachelor of Science Degree

Total for graduation	130-134 credits
General Education	43-50 credits
Major	41-52 credits
Required Electives	8-15 credits
Concentration	22-28 credits
Free Electives	4-11 credits

Students pursuing special education certification need to carefully choose their general education or major courses in order to fulfill certification requirements.

* A grade point of 2.0 is required.

Program Requirements General Education

43-50 credits required

Communications (10-11 credits)

326-101	Freshman English - Composition*	3
326-102	Freshman English - Reading and Related Writing*	3
326-XXX	Any advanced Writing*	2-3
391-100	Speech* or	
391-2XX	Any Speech*	2

Sciences and Mathematics (9-13 credits)

355-1XX	Any Mathematics	4
<i>Special Education Certification requirement:</i>		
308-XXX	Any Biology*	2-4
311-XXX	Any Chemistry * or	
372-XXX	Any Physics*	2-5
<i>Noncertification requirements:</i>		
308-134	Physiology and Anatomy for Health Sciences* and	4
308-220	Physiology of Disabilities*	3

Social and Behavioral Sciences (11-12 credits)

320-XXX	Any Economics or	
375-XXX	Any Political Science	3
<i>Students obtaining Special Education Certification must complete 375-210 Government</i>		
387-110	Introductory Sociology	3
479-110	General Psychology	3
421-205	Human Relations or	2
479-552	Adolescent Psychology	3

479-552 required only for students obtaining Special Education Certification

Humanities (8-10 credits)

338-XXX	Any History	2-3
	<i>Students obtaining Special Education Certification must complete 338-210</i>	
326-XXX	Any Literature or	
3XX-XXX	Any Foreign Language	3-4
	<i>Students obtaining Special Education Certification must complete a literature course</i>	
365-XXX	Any Philosophy	3

Fine Arts (2-3 credits)

120-XXX	Any Photography	2-3
304-XXX	Any Art	2-3
360-XXX	Any Music	2-3
391-XXX	Any Theater	2-3

Physical Education (2 credits)

366-XXX	Any Physical Education or	
367-XXX	Any Physical Education	2

Major**41-52 credits required****Core (25 credits)**

459-101	Introduction to Rehabilitation	3
459-102	Community Resources	3
459-230	Psycho-Social Aspects of Disabilities	3
459-310	Vocational Evaluation	4
459-401	Caseload Management	2
459-410	Placement	3
459-605	Microcomputer Application for the Handicapped	2
459-610	Psychological Testing with Handicapped People	2
459-680	Principles of Rehabilitation Counseling	3

Correlated Courses**Special Education Certification (27 credits)**

431-481	Student Teaching with Disabled Youth	16
431-516	Psychology of the Exceptional Child	3
431-518	Clinical Experience with the Handicapped	2
431-526	Practicum in Special Education	2
431-528	Assessment for Individual Educational Planning	2
431-585	Introduction to Mental Retardation	2

Noncertification (16 credits)

212-650	Introduction to Marriage and Family Therapy or	
431-675	Counseling Theory	2-3
459-X98	Vocational Rehabilitation Field Experience	2
459-205	Rehabilitation Practicum	4
459-585	Rehabilitation of the Mentally Retarded	2
459-670	Work Adjustment Services	3
479-561	Abnormal Psychology	3

Required Electives**8-15 credits required**

Students **not** completing a concentration, as well as students pursuing concentrations in Business, Independent Living, Individualized, Physical Education, Rehabilitation Counseling, and Community-Based Rehabilitation must select 12 credits from Category I.

Students completing the Rehabilitation Technology Concentration must complete the courses indicated, and select an additional 8 credits from Category I.

Students completing the Rehabilitation of the Older Person Concentration must complete the course indicated, and select an additional 9 credits from Category I.

Students completing Special Education Certification must complete the courses indicated in Category II, and select an additional 4-6 credits from Category II.

Category I

140-580	Driver Education for the Handicapped	2-3
421-305	Teaching Practicum	2
431-516	Psychology of the Exceptional Child	3
431-524	Career and Vocational Education for the Retarded	3
431-581	Legal Rights of Handicapped	2
459-X99	Independent Study	2-6
459-325	Rehabilitation of the Sensory Disabled	3
	<i>Required for Rehabilitation of Older Person Concentration</i>	
459-402	Rehabilitation Facilities Operation	3
459-413	Vocational Evaluation Seminar	2
459-500A	Applied Biofeedback in Rehabilitation	1
459-505	Sign Language I	3
459-506	Sign Language II	3
459-509	Introduction to Biofeedback	3
459-510	Clinical Biofeedback Laboratory	3
459-520	Rehabilitation of the Chemically Dependent	3
459-525	Rehabilitation of the Public Offender	3
459-550	Independent Living	2
459-555	Rehabilitation of the Older Disabled Worker*	2
459-558	Support System Networking*	2
459-560	Technological Applications: Rehabilitation	2
	<i>Required for Rehabilitation Technology Concentration</i>	
459-565	Laboratory in Rehabilitation Technology	2
	<i>Required for Rehabilitation Technology Concentration</i>	
459-601	Rehabilitation in the Private Sector	2
459-661	Forensics for the Rehabilitation Professional	2
459-682	Sexuality and the Disabled	2
459-685	Group Processes in Rehabilitation Settings	2
459-688	Advanced Job Placement	2

Category II

130-140	Graphics Arts	2
140-580	Driver Education for the Handicapped	2
170-101	Processes	3
199-502	Principles of Vocational, Technical and Adult Education	2
	<i>Required for Special Education Certification</i>	
199-560	Cooperative Occupational Education Programs	2
212-250	Family Relations	3
214-590	Practicum in Textile Design	3
413-501	Introduction to Guidance	2
413-691	Theories of Career Development	2
421-205	Human Relations	2
431-501	Learning Disabilities	2
431-524	Career and Vocational Education for the Retarded	3

Required for Special Education Certification

431-581	Legal Rights	2
431-662	Classroom Management Techniques	3
	<i>Required for Special Education Certification</i>	
459-XXX	Any additional Rehabilitation courses	1-6
479-561	Abnormal Psychology	3

Concentrations

22-28 credits required

Business

Required Concentration Courses (13 credits)

160-206	Introduction to Financial Accounting	3
459-587	Handicapped Workers in Business and Industry	3
459-601	Rehabilitation in the Private Sector	2
459-402	Rehabilitation Facility Operations	3
459-480	Advanced Rehabilitation Practicum	2

Restricted Concentration Electives (9 credits)

150-200	Production/Operations Management	3
150-304	Principles of Management	3
160-207	Introduction - Corporate and Managerial Accounting	3
160-230	Small Business Management	3
160-318	Business Law I	3
160-323	Retail Merchandising and Management	3
160-330	Principles of Marketing	3
160-334	Sales and Sales Management	3
160-340	Business Finance	3
160-355	Principles of Risk Management	3
160-690	Administration and Business Policies	3
479-582	Human Resource Management	3

Independent Living

Required Concentration Courses (13 credits)

459-550	Independent Living	2-6
459-682	Sexuality and the Disabled	2
413-405	Peer Counseling	3
479-570	Assertive Training Procedures	2
459-558	Support System Networking	2
459-480	Advanced Rehabilitation Practicum	2

Restricted Concentration Electives (7 credits)

A student may take a course not listed in the restricted electives only with the approval of the program director. Such consent must be noted in the student's file and a memo of such action sent to the Registrar.

140-580	Driver Education for the Handicapped	2-3
212-554	The Single-Parent Family	1
212-660	Current Topics in Sexuality	1
212-680	The Aging Person	2
229-212	Nutrition	3
229-505	Nutrition for the Aged	2
245-250	Family Housing	3
387-205	Introduction to Social Work	3
387-215	Sociology of the Family	3
387-420	Child and Family Agencies	3
431-581	Legal Rights of the Handicapped	2
459-X99	Independent Study	1-4
459-685	Group Processes	2
479-484	Introduction to Behavior Modification	2
479-571	Introduction to Health Psychology	3
245-682	Hospitality and the Handicapped Traveler	1

Individualized

Required Concentration Courses - none.

Restricted Concentration Selectives - 22 credit block chosen in conjunction with and approved by program director.

Physical Education

Required Concentration Courses (10.5 credits)

366-340	ARC Standard First Aid and Personal Safety	2
366-355	Kinesiology	3
366-346	ARC Cardiopulmonary Resuscitation	5
479-571	Introduction to Health Psychology	3
459-480	Advanced Rehabilitation Practicum	2

Restricted Concentration Electives (11.5 credits)

366-101	Health Survey	1
366-102	Personal Health	2
366-365	Physiology of Exercise	3
367-XXX	Any Physical Education (activity)	5
367-265	Physical Activities for Preschool Children	2
367-340	Camp Leadership	2
367-342	Water Safety Instructor	2

Note: No half-credit activity course may be counted both to fill physical education requirements in major and count as elective credit.

Rehabilitation Counseling

Required Concentration Courses (16 credits)

413-405	Peer Counseling	3
459-685	Group Processes	2
212-650	Introduction to Marriage and Family Therapy	3
459-480	Advanced Rehabilitation Practicum	2
459-520	Rehabilitation of the Chemically Dependent	3
479-460	Personality and Mental Health	3

Restricted Concentration Electives (6 credits)

212-351	Death and the Family	1
212-354	Skill Training for Individual/Family Interventions	3
212-607	Parent Counseling	2
212-615	Family Stress, Coping and Adaptation	1
212-690	Death Education and Counseling in Families	2
387-420	Child and Family Agencies	3
413-444	Introduction to Group Processes	2
413-650	Behavior Problems of Adolescents	2
413-666	Alcoholism and Family Systems Intervention	2
413-694	Counseling Older Persons	2-3
431-581	Legal Rights of the Handicapped	2
459-X99	Independent Study	1-3
459-500A	Applied Biofeedback in Rehabilitation	1
459-509	Introduction to Biofeedback	3
459-510	Clinical Biofeedback	3
459-525	Public Offender	3
459-682	Sexuality and the Disabled	2
479-484	Introduction to Behavior Modification	2
479-570	Assertive Training Program	2

Rehabilitation Technology

See required professional restricted electives in program requirements section.

Required Concentration Courses (17 credits)

110-204	Electricity/Electronics Fund	3
130-110	Drafting	2
140-587	Human Factors Engineering	3
170-102	Manufacturing Material and Processes I	3
170-103	Manufacturing Material and Processes II	3
170-205	Design for Industry	3
Restricted Concentration Electives (11 credits)		
110-260	Introduction to Fluid Power	2
110-361	Industrial Hydraulics	2
110-362	Industrial Pneumatics	2
130-311	Technical Drafting	3
140-581	Occupational Safety/Loss Control	2-3
140-583	Voluntary OSHA Compliance	2-3
150-540	Time and Motion Study	3
170-230	Metal Machining Technology	3
170-241	Machine Woodworking	2
170-250	Plastics I	2
300-101	Computer Literacy	2
300-255	Creative Problem Solving	2
304-100	Drawing I	3
304-300	Design Theory and Methods	3
304-330	Industrial Design I	3
366-355	Kinesiology	3
459-X99	Independent Study	2-4

Special Education Certification

Leads to Wisconsin #806 Licensure. See required general education and professional restricted electives in program requirements section.

Required Concentration Courses (19 Credits)

120-560	Audiovisual Communications	2
421-3XX	A regular Education practicum	1
421-303	Educational Psychology	2
421-326	Foundations of Education	2
421-408	Introduction to Teaching Strategies	4
421-536	Working with the Culturally Different	2
421-576	Field Experience-Cross Cultural Experience	1
421-582	Secondary Reading and Language Development	2
431-522	Teaching Basic Skills to the Mentally Retarded	3

A grade of 2.0 or better is required in all concentration course work.

At least one Field Experience must be with the mildly retarded and one with the moderately retarded. At least one Field Experience must be at the junior high or middle school (if student wants middle school certification) and one at the senior high level. At least 12 Special Education (431-XXX) credits plus Student Teaching must be completed at UW-Stout to be recommended for certification by UW-Stout. See pages 14 and 15 for specific requirements on admission to advanced standing, admission to student teaching, graduation and standardized teacher examinations.

Rehabilitation of the Older Person

See required professional restricted elective in program requirements section.

Required Concentration Courses (17 credits)

212-680	The Aging Person	2
387-XXX	Sociology of Aging	3
413-694	Counseling Older Persons	2-3
459-480	Advanced Rehabilitation Practicum	2
459-550	Independent Living	2
459-555	Rehabilitation for the Older Disabled Worker	2
459-558	Support System Networking	2
459-560	Technological Applications: Rehabilitation	2
Restricted Concentration Electives (5 credits)		
212-585	Family-Based Employee Assistance Programs	3
229-505	Nutrition for the Aged	2
366-102	Personal Health	2
387-215	Sociology of Family	3
387-250	Social Psychology	3
431-581	Legal Rights of the Handicapped	2
479-460	Personality and Mental Health	3
479-673	Psychology of Stress	2

Community-Based Rehabilitation

Required Concentration Courses (18 credits)

199-534	Task Analysis	2
431-581	Legal Rights of the Handicapped	2
459-XXX	Community Based Rehabilitation Applications	2
459-XXX	Supported Employment	1
459-XXX	Transitional Employment	1
459-480	Advanced Rehabilitation Practicum	2
459-550	Independent Living	2
459-558	Support System Networking	2
459-560	Technological Applications: Rehabilitation	2
459-688	Advanced Job Placement	2

Restricted Concentration Electives (4 credits)

160-115	Understanding Business	2
387-530	Sociology of the Community	3
459-587	Management of Handicapped Workers in Business and Industry	3
459-601	Rehabilitation in the Private Sector	2
479-484	Introduction to Behavior Modification	2
479-579	Public Relations	2

Free Electives

4-11 credits

Courses may be taken from any department in the University.

VOCATIONAL, TECHNICAL AND ADULT EDUCATION

School of Industry and Technology

General Requirements Bachelor of Science Degree

Total for graduation	130 credits
General Education	47-48 credits
Major	72 credits
Free Electives	10-11 credits

A student must obtain a minimum of 2,000 hours of appropriate work experience for provisional certification to teach vocational, trade and industrial courses.

Students must make applications for admission to the education sequence. Candidates must hold a cumulative grade point average of at least 2.75 and meet the speech, English and health requirements as described in the Professional Education section of course descriptions.

Program Requirements General Education

47-48 credits required

199-580	Computer Aided Instruction in Vocational, Technical and Adult Education <i>or</i>	
354-141	Computer Programming – BASIC	2
150-600	Organizational Leadership <i>or</i>	
479-582	Human Resource Management	3
320-201	General Economics	3
326-101	Freshman English – Composition	3
326-102	Freshman English – Reading and Related Writing	3
326-XXX	<i>Any Writing</i>	3
355-120	College Mathematics I	4
355-121	College Mathematics II <i>or</i>	
355-123	Finite Mathematics	4
366-101	Health Survey <i>or</i>	
366-340	First Aid and Safety	1-2
375-210	Government <i>or</i>	
338-XXX	<i>Any History</i>	3
387-110	Sociology	3
391-100	Speech	2
391-XXX	<i>Any Speech</i>	2
479-110	Psychology	3

Natural Science

Select 8 credits from the following:
(one must be a laboratory course)

308-XXX	<i>Any Biology</i>	1-8
311-XXX	<i>Any Chemistry</i>	1-8
371-XXX	<i>Any Physics</i>	1-8

Major

72 credits required

Technical (42 credits)

Because each student brings different qualifications as a result of prior training and experience, the student with the assistance of the program director will define all 42 technical credits in terms of student and job competency needs.

Professional Education (30 credits)

120-560	Audiovisual Communications	2
190-405	Curriculum Development in Industrial Education	2
190-205	Methods of Teaching Industrial Education	2
190-406	Instructional Evaluation in Industrial Education	2
190-408	Student Teaching	
	Technology/Vocational Education	8
198-550	Introduction to Training	2
199-502	Principles of Vocational, Technical and Adult Education	2
199-534	Task Analysis	2
199-674	Adult Education	2
421-303	Educational Psychology	2
421-536	Working with the Culturally Different	2
413-501	Introduction to Guidance	2

Free Electives

10-11 credits required

SPECIALIZATIONS

Introduction

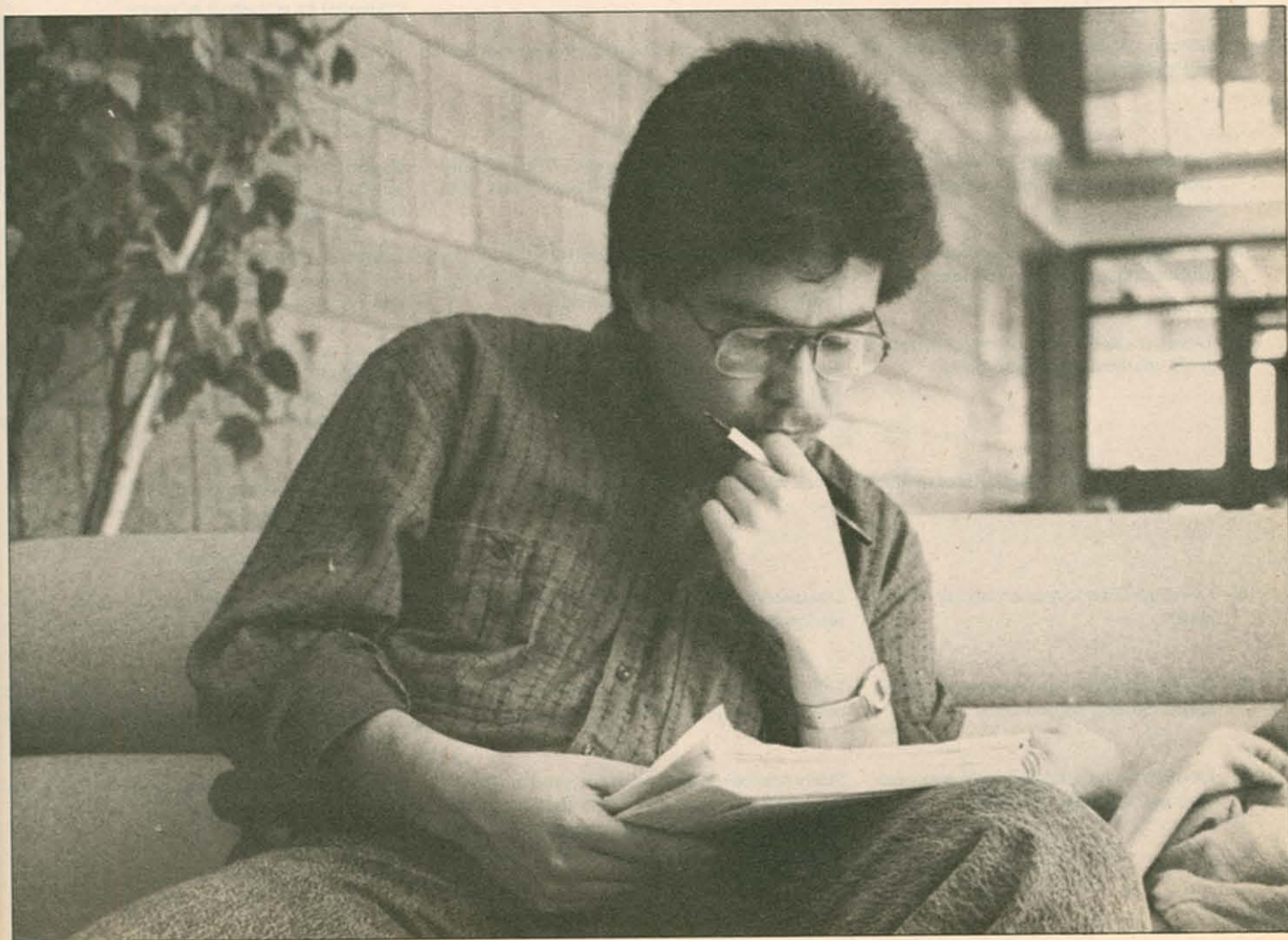
An all-university specialization is designed to achieve defined outcomes. Designing an all-university specialization begins by identifying a significant area of study, by setting forth the outcomes intended, and by identifying the learning experiences to be offered to students, and the evaluation procedures to be used. Curricular design for all-university specializations is not constrained to traditional academic patterns. Primary consideration is given to clarity in defining intended outcomes, effectiveness in promoting learning and appropriateness to the targeted student population. Learning experiences for all-university specializations often include non-credit experiences, internships, mentor-fellow interactions, evaluations of specified capabilities achieved outside of the university setting, or successful completion of proficiency evaluations or external certification or licensing examinations. Of course, most all-university specializations include traditional university course work as well. These courses are often from several departments or curricular areas and involve faculty from several disciplines.

All-university specializations do not depend on the backgrounds of students in any single major. They are intended to accomplish their objective within the learning experiences listed for the specialization. However, if a student takes courses as part of the all-university specialization, those courses may also be applied to a variety of existing graduate or undergraduate degree programs, as far as the curricula of these programs permits. Comple-

tion of an all-university specialization is recorded on the student's transcript and a certificate of completion is issued as well.

All-university specializations are not defined primarily in terms of numbers of credits accrued. Instead, the program specifies the completion of prescribed learning experiences and/or achievement of specified capabilities. The student's time commitment is consistent with achieving the desired outcomes. All-university specializations are highly focused; that is, they do not address secondary or concomitant outcomes. They do not include electives and there is limited opportunity (if any) for students to select among comparable courses. They are designed to focus on specific, designated purposes, rather than being intended for individualization for each student. All-university specializations are specified programs to achieve desired outcomes, with designated evaluation procedures.

All students enrolled at Stout have the option of completing an all-university specialization in addition to the degree program. Courses taken for the specialization may also be applied to the degree program, where they fit within the requirements of the program. In some cases, electing both a degree program and an all-university specialization may not increase the length of time spent at the University beyond the usual commitment for the degree alone; in other cases, additional time may be required.



Craftsmanship

Introduction

This all-university specialization is intended for persons with interest in any of several craft areas, who wish to achieve professional levels of skill and knowledge in that craft. For each student in the all-university specialization, a team of faculty members with expertise in the area (which may also include practicing professional craftsmen) will be appointed. This team will plan a series of learning experiences for the student and will meet periodically during the program to assess the student's progress toward the program objectives.

The principle instructional method for this all-university specialization is individually guided learning experiences, conducted in the University laboratories under supervision of a faculty committee and/or under the immediate supervision of a

practicing craftsman. Existing course work will also be utilized as a source of learning experiences, where appropriate. Stout offers extensive course work related to several craft areas. Internships in operational crafts businesses may also be arranged for some students. The principle evaluation process for this specialization is periodic review, including formative and summative evaluation by the team of faculty members, which will be appointed for each student in the specialization. The faculty advisory team will also conduct the summative evaluation which determines whether the student has successfully completed the program. Contact the Office of the Dean, School of Industry and Technology for further information.

Requirements for the Specialization

Intended Outcome	Learning Activity	Achievement Indicator or Evaluation Process
1. Refine skills in chosen craft area.	Participation in craftwork under the direction of a faculty member and/or professional crafts people.	Evaluation and critique by faculty adviser and/or professional crafts people.
2. Develop a sense of aesthetics.	Interaction with faculty, visiting artists and professional crafts people.	Evidence of a sense of aesthetics and attitudes of excellence will be displayed in individual work, evaluated by a team of advisers.
3. Develop a critical understanding of one's abilities.	A study of and extensive work in a specific craft area.	Successful completion and evaluation of quality craft items via critiques with professionals. Progress will be evaluated periodically by a team of advisers.
4. Develop the ability to successfully confront new design and technical challenges.	Problems which require new and unique solutions will be assigned, worked on and completed by the learner.	Degree to which problem criteria have been fulfilled in the proposed solution will be evaluated by a team of advisers.
5. Develop knowledge of appropriate facilities, tools, resources and materials.	Work with appropriate facilities, tools, resources and materials. (<i>See the sample listing of existing related course work at Stout.</i>)	Evidence of using appropriate facility, tools, resources and materials, to be evaluated by supervisor(s) of laboratory experience.
6. Develop a knowledge of procurement of tools, materials and equipment.	Select and procure proper tools, materials and equipment. With help of faculty adviser, work toward meeting standards of quality.	Success in obtaining proper tools, materials and equipment. Evidence of working to set standards of quality. Progress evaluated periodically by faculty adviser. Summative evaluation by a team of advisers.
7. Develop individual standards of quality craftsmanship.	Work toward meeting standards of quality.	Evidence of working to set standards of quality. Progress toward, and achievement of professional standards of craftsmanship, will be confirmed by a team of advisers.
8. Develop ability to assess viability of craft career.	Discussions and critiques with faculty and professional crafts people.	Self-assessment of craftwork and career potential. Validity of self-assessment confirmed by a team of advisers.
9. Develop ability to use references related to individual's chosen craft.	Utilize references on a continuous basis and conduct library research on a major project.	Produce a research paper and/or project. Quality of paper and/or project will be evaluated by a team of advisers.
10. Develop an understanding of appropriate small business practices.	Study appropriate tax, resource, production and accounting systems. Complete the course 160-230 Small Business Management, 3 cr. , or an internship in an operating crafts business (<i>minimum of 3 credits</i>).	Successful completion of designated course work and/or internship experiences.

Courses in Crafts-Related Areas

Courses may be selected from the following list or from other current offerings, as appropriate, according to the objectives and existing level of expertise and ability of individual students in the craftsmanship specialization.

170-209	General Finishing	2
170-230	Metal Machining Technology	3
170-241	Machine Woodworking	2
170-313	Wood and Wood Fiber Composite Materials	3
170-331	Advanced Machine Shop	2
170-344	Cabinet Work	2
170-357	Metal Casting Processes	3
170-365	Production Welding Technology	3
170-515	Metallurgy	3
170-565	Welding II	2
214-140	Textiles	3
214-545	Textiles for Interiors	2
214-550	Textile Evaluation	3
214-590	Practicum in Textile Design	3
214-591	Natural Dyeing and Hand Spinning	2
214-690	Advanced Fiber Design	1-3
214-693	Structural Design and Weaving	2
214-694	Advanced Weaving Studio	2
304-513	Ceramics I	3
304-514	Ceramics II	1-3
304-515	Art Metal I	3
304-516	Art Metal II	1-3
304-520	Clay and Glaze Laboratory	1



Futures Studies

Introduction

Increasingly, our society needs people who have the skills and talents to make projections, and to use the concepts and techniques of futures studies. As change increasingly affects our lives, people who have the skill to manage the dynamics of change will be in demand, both personally and professionally, in education, government, the military, business, industry, the church and volunteer organizations.

The curriculum for this all-university specialization includes three group instruction courses (5 credits) and four individually guided learning experiences (6 credits). The individually guided experiences include two independent studies, an on-campus internship and a field study to be conducted in an off-campus setting. Completion of the all-university specialization requires a total of 11 credits. Contact the Office of the Dean, School of Industry and Technology, for further information.

Requirements for the Specialization

Intended Outcome	Learning Activity	Achievement Indicator or Evaluation Process
1. Understanding of the concepts, materials and organizations related to Futures Studies.	100-500 Introduction to Futures Study 2 cr. This course will introduce the student to the information and skills necessary to start and continue Futures Studies activities.	Examination, papers and reports, all meeting a minimum grade of 2.0.
2. Ability to employ common futures forecasting techniques within the context of a futures research project.	100-525 Advanced Futures Study 1 cr. This independent study course will focus on projection techniques. The student will experiment with several of the common techniques.	Examination, papers and reports, all meeting a minimum grade of 2.0.
3. Ability to apply the concepts and techniques of Futures Studies to the institution of the family.	212-580 Future of the Family 1 cr. Evaluation of experimental and utopian forms of the family and study of the future of the family.	Examination, papers and reports, all meeting a minimum grade of 2.0.
	195-532 Futures of Technology 2 cr. This course will focus on the three frames of technology, starting with definitions and exploration of others ideas about future possibilities.	
4. Ability to employ futures studies resources to do futures research.	100-XXX Independent Study Literature Search 1 cr. This experience will involve the student more heavily in a particular area of interest and provide an opportunity for some original futures research.	Positive recommendation from the adviser and an annotated bibliography derived from the literature search.
5. Ability to apply the concepts and techniques of futures research to academic purposes.	100-XXX Internship in Center for Futures Studies 2 cr. This on-campus experience will provide an opportunity for students to practice the skills learned, to broaden their experiences and to provide a service to the Stout community.	Positive recommendation from Center for Futures Studies director, based on the quality of reports and an assessment of reactions from clients.
6. Ability to conduct futures research within corporate or organizational setting.	100-XXX Applied Field Study 2 cr. This off-campus experience will offer a community service and provide a culminating and synthesizing experience for the student prior to an initial position as a practicing futurist. The student will be associated with a community organization able to utilize the talents of a futurist.	Positive reaction from agency with which student has served during the field study (<i>a checklist of criteria will be provided</i>).

International Studies

Introduction

As the world moves toward the 21st Century, people in all countries and cultures are increasingly interacting with each other. Many Stout graduates find work in multinational businesses and international tourism. Others go into the Peace Corps or other types of international volunteer work. Many more use their leisure time for travel or study abroad. Even those who never venture abroad find their professional, civic and personal lives impacted by the expansion of international relationships.

The International Studies Specialization at Stout is flexibly designed to offer both adult learners and traditional students an opportunity to better understand other cultures and international relationships and to compete more successfully in the workplace. The specialization requires all students to complete six core courses or their equivalents at Stout or at other educational institutions in the United States or abroad. This core provides an introduction to:

1. the structure and problems of international relations,
2. cultural variation and analysis,
3. the geographical setting of international relations,
4. the study of a second language,
5. the culture and history of a country or region other than one's own, and
6. interaction with peoples of another culture.

After completing the core, students select from several options the one that best meets their interests and needs. The International Business option is designed to increase knowledge and understanding of international business and economic relations. The International Tourism option is for students preparing for careers in the tourism industry. The Language Studies option and Area Studies option can be useful for persons who want to prepare to interact and communicate in an increasingly interdependent world. The Comparative Education option will introduce students preparing for careers in education or international service to knowledge about education systems and teaching methods in other countries and will be useful for teachers considering exchange programs or other teaching opportunities abroad. The Clothing, Textiles and Fashion option is designed for persons interested in understanding the international aspects of this industry.

Students may fulfill these learning objectives through a combination of formal course work, study or work experience abroad or faculty-directed independent study. All students in the specialization are strongly encouraged to plan work or study experience abroad.

Requirements for the Specialization

Intended Outcome	Learning Activity	Evaluation of Learning
<i>Complete 15-18 credits as required below.</i>		
1.0 Develop understanding of international relations.	375-340 International Relations 3 cr. or equivalent course work abroad.	Exams, papers and reports – 2.0 grade point average.
1.1 Develop understanding of concepts used to analyze international relations.		
1.2 Recognize participants and patterns of international relationships.		
1.3 Identify and analyze global problems arising from international relations.		
2.0 Develop understanding of cultural variation and analysis.	303-220 Cultural Anthropology 3 cr. or equivalent course work abroad or 421-536 Working With the Culturally Different 2 cr.	Exams, papers and reports – 2.0 grade point average.
2.1 Develop understanding of concepts used to analyze cultural variation.		
2.2 Recognize and begin to understand the complexity of cultural variation that exists in the world.		
2.3 Develop a cross-cultural approach to analyzing international problems.		
3.0 Develop understanding of the geography and peoples of the world.	336-104 World Geography 3 cr. or equivalent course work abroad.	Exams, papers and reports – 2.0 grade point average.
3.1 Develop understanding of geographical concepts.		
3.2 Recognize components of the physical setting in which cultures exist and international relations occur.		
3.3 Recognize and analyze the relationships between the physical world, on the one hand, and cultural variation and international relations on the other.		

Intended Outcome

Learning Activity

Evaluation of Learning

4.0 Develop introductory knowledge of a second language.

Equivalent of one semester of college level language study – 4 cr.

Exams, papers and reports averaging a grade of 2.0 or certification of equivalent level of proficiency by the language faculty.

5.0 Develop introductory knowledge of the history, culture and/or social institutions of a country or region other than one's own.

One 2-3 credit area studies course. Students are encouraged to take this coursework abroad. Students not going abroad should select one of the following courses:

300-250 Soviet Seminar Tour 2 cr.

338-320 History of Russia 3 cr.

338-360 Asian History 3 cr.

338-380 Latin American History 3 cr.

365-315 Eastern Philosophy 3 cr.

Other area studies courses to be developed or Faculty directed independent study or reading.

Exams, papers and reports – 2.0 grade point average.

6.0 Integrate knowledge with experience in another country or culture.

500-XXX International Field Experience 1-2 cr. (For students studying or working abroad.) Course would include an orientation to the country and culture and a written evaluation of the experience which requires the student to integrate the experience with other learning objectives of the specialization or

421-576 Field Experience – Cross Cultural 1 cr.

Requires 50 hours of volunteer or other work with people of another culture living in the United States.

Exams, papers and reports – 2.0 grade point average.

6.1 Study or work in another culture.

6.2 Appreciate diversity of cultural values.

6.3 Integrate intercultural experiences with other knowledge about international relations.

Specialized Learning Objectives

Learning Activity

Evaluation of Learning

Option A: International Business

A.1 Develop understanding of international business practices.

A.2 Develop understanding of international trade, development, marketing, finance, business law, management and/or transportation.

Complete 9 credits as required.

160-260 International Business 3 cr.

Select 6 credits from the following:

320-480 Principles of International Trade 3 cr.

320-5XX Economic Development 3 cr.

160-585 International Marketing 3 cr.

160-5XX International Law 3 cr.

160-540 International Business Finance 3 cr.

150-5XX International Management 3 cr.

160-538 International Logistics 3 cr.

160-588 International Business Practicum 3 cr.

and/or

Faculty directed study or work experience abroad.

Exams, papers and reports – 2.0 grade point average.

Specialized Learning Objectives

Learning Activity

Evaluation of Learning

Option B: International Tourism

- B.1.0 Identify international components of the tourism industry.
- B.1.1 Recognize the economic role of tourism in a global economy.
- B.1.2 Recognize the role of government in planning/development of tourism.
- B.1.3 Analyze current issues related to international tourism.
- B.1.4 Analyze/become familiar with hospitality and tourism publications.
- B.2.0 Assess quality and quantity of selected tourism resources throughout the world.
- B.2.1 Analyze spatial patterns of connection, circulation, interaction, transportation and communication associated with the geography of tourism.
- B.2.2 Analyze international tourism's locational trends.
- B.2.3 Develop world map reading skills related to tourism.
- B.3.0 Analyze current tourism topics.
- B.4.0 Experience working in tourism industry abroad.

Select 5-9 credits from the following:

245-240 Introduction to Tourism and the Travel Industry 2 cr.

245-645 Geography of Tourism 3 cr.

245-681 Special Problems in Habitational Resources - Tourism 2 cr.

Internship, field experience or independent study abroad.

Exams, papers and reports - 2.0 grade point average.

Option C: Language Studies

- C.1 Develop ability to communicate in a second language.

Equivalent of two years of college level study of a foreign language.

Exams, papers and reports - 2.0 grade point average; or certification of equivalent level of proficiency by the language department.

Option D: Area Studies

- D.1 Increase understanding of the history, culture and social institutions of a country or region other than one's own.

Select 6-9 credits from the following:

Faculty approved study research or internship abroad. (Students are encouraged to take area studies abroad) and/or select appropriate courses from list in 5.0 of core objectives.

Exams, papers and reports - 2.0 grade point average.

Option E: Comparative Education

- E.1 Develop an understanding of the socio-political context of education in other countries.
- E.2 Develop an understanding of teaching practice appropriate to other countries.

6 credits from the following:

421-XXX Comparative Education 3 cr.

421-502 Global Perspectives for Educators 3 cr.

Exams, papers and reports - 2.0 grade point average.

Option F: Clothing, Textiles and Fashion

- F.1 Increase understanding of international economic trends influencing textiles, clothing, and related areas.
- F.2 Develop understanding of international centers serving the fashion, clothing, textiles, and related arts area.
- F.3 Increase understanding of international historical influences on present day fashion and clothing.

Select 6-9 credits from the following:

214-519 International Economic Trends in Textiles/Clothing 3-6 cr.

214-605 International Study Tour to the Fashion Industries 3-6 cr.

214-610 History of Costume-Ancient to European 3 cr.

Exams, papers and reports - 2.0 grade point average.

Inventing

Introduction

The desire to learn is in every creative person, especially to the degree that the results of the study will aid in improved creativity. The student who chooses this all-university specialization will typically have a creative mind and desire to improve his/her inventing skills. The all-university specialization of inventing is intended not only to satisfy these student needs, but also to help solve the societal problems by increasing productivity. Technology

has advanced at an extremely rapid pace, but it has not yet been utilized to its fullest potential for the development of new products or processes. By acquainting persons who have creative minds with the most recent advances in technology, chances for new and innovative ideas may increase. Contact the Office of the Dean, School of Industry and Technology, for further information.

Requirements for the Specialization

Intended Outcome	Learning Activity	Achievement Indicator or Evaluation Process
1. Read mechanical drawings.	130-110 Drafting 2 cr. or equivalent.	Performance examination using simple and complex machine drawings.
2. Produce mechanical drawings.	130-111 Technical Drafting 3 cr. or equivalent. Complete working drawings for an object should be included.	Present completed working drawings to a craftsman for elevation.
3. Prepare a precise freehand sketch of an object.	304-101 Fundamentals of Design 3 cr. and/or 304-503 Design 3 cr. or the equivalent series: 304-100 Drawing I 3 cr. 304-500 Drawing II 1-3 cr. and 304-305 Presentation Techniques 3 cr.	Performance evaluation: Given an object to sketch, do so with precision and without measuring instruments.
4. Explain mechanical, electrical, fluid and other scientific principles.	Complete physical and technical courses appropriate to the student's special interest area. Courses will be assigned by advisement of technical adviser in consultation with appropriate science department chairperson.	Using an appropriate product which encompasses the desired scientific principles, the student will explain in writing the principles and laws involved.
5. Explain patent procedures.	Conduct an independent study or attend a seminar on patent procedures and law.	Outline the procedure for seeking a patent.
6. Develop a marketing plan for a new product. Set up an organizational structure to produce it.	160-230 Small Business Management 3 cr. or 160-X98 Business Administration Field Experience 2 cr.	Given a new patent on a product, list the steps to take and resources available to market and produce the product.
7. Operate machine tools and use hand tools in model making.	Depending upon area of interest, take basic technical courses to gain proficiency in that area(s), i.e. 170-101 Processes - Concepts 3 cr. 170-202 Metals 2 cr. 170-250 Plastics I 2 cr.; and so on.	Produce a model of a new product from a set of working drawings.
8. Select and develop a reading list of trade publications.	Conduct independent study to include in-depth research in at least one trade area which would yield a comprehensive list of trade publications.	List the library resources and procedures necessary to produce a complete list of trade publications in a given area.
9. Relate the biography of selected famous inventors and their major inventions.	Conduct independent study of an approved list of biographical writings about important inventions and inventors.	In an oral exam setting, answer selected questions on why and how a particular invention was developed.
10. Solve problems through logical reasoning, analysis and synthesis.	354-141 Digital Computer Programming 2 cr. 365-301 Introduction to Logic 3 cr.	Given a complex problem, present in writing an original solution to the problem using, where possible, modern data handling processes.
11. Recognize an area of need or a specific need or problem. Explore and show multiple approaches to solving that problem through idea sketching, model building, verbalization or any other means that will give insight into the problem solution.	Complete courses which focus on problem solving and presentations, such as 304-300 Design Theory and Methods 3 cr. 304-330 Industrial Design I 3 cr. 304-340 Industrial Design II 3 cr., and 304-430 Industrial Design III 4 cr.	Make a presentation to a jury of experts. The presentation would include approaches to the problem and solutions selected to satisfy a need or solve a specific problem.
12. Present a complete proposal for an invention.	Consult with staff as needed, via independent study.	Evaluation and critique by program committee for all-university specialization.

Professional Writing

Introduction

The professional writing specialization, unlike other programs at Stout, is creation-oriented not production-oriented. Because of the number and type of credits involved, the specialization will be attractive to students returning to college for additional career skills. This population includes people who wish to accommodate themselves to the rapidly expanding service dimension of our economy. They could find positions as free-lance writers and as writers for various kinds of writing agencies, from hardware publication departments to advertising agencies. The specialization will also appeal to people whose job responsibilities have changed to include more internal communication. Recently, such students have requested this kind of specialization more frequently. Students could complete the program in two semesters.

The specialization addresses an area of critical importance –

clearly communicating information. Not only will students be better prepared for initial employment, they will also be better prepared for careers and promotion within them. They will have the tools to advance in their chosen fields. Moreover, they will be better able to cope with – and manage – a changing workforce and economy because they will possess training in a specific segment of the economy and the ability to transfer that training via written communication within a given company or industry. Graduates of this program will be able to clarify technical concepts for a wide range of audiences, especially non-technical ones.

The specialization will integrate various elements of degree programs – writing, public relations, design, graphic arts and others – in one efficient package. A minimum of 12 credits is required for this specialization.

Requirements for the Specialization

Objectives

1. Interact with clients in order to produce their documents.

2. Design documents according to client specifications.

3. Write and produce a final document by following a logical production procedure.

Learning Activities

Follow a sequence of activities, under supervision, to produce a document, starting with an initial interview and progressing to a final document.

479-579 Public Relations* 2 cr.
326-537 Technical Writing Practicum* 2-3 cr.
479-679 Advanced Public Relations 2 cr.
326-310 Journalism Practicum 1 cr.
326-399 Independent Study 1-3 cr. or
326-X49D Co-op 3 cr.
(including work at the job).

Under supervision of a teacher, learn basic principles of document design. Under supervision of a teacher, determine client's design needs. Produce document.

479-579 Public Relations* 2 cr.
326-537 Technical Writing Practicum* 2-3 cr.
479-679 Advanced Public Relations 2 cr.
326-310 Journalism Practicum 1 cr.
326-399 Independent Study 1-3 cr. or
326-X49D Co-op 3 cr.
(including work at the job).

Structure sequence of activities that teaches students the stages of interacting with a printer to produce a final version of a document.

130-140 Graphic Arts* 2 cr.
326-537 Technical Writing Practicum* 2-3 cr.
130-246 Typography 2 cr.
130-509 Business Applications
in Desktop Publishing 1-2 cr.
130-545 Publications Production 1 cr.
304-210 Letter Form Design 3 cr.
326-399 Independent Study 1-3 cr. or
326-X49D Co-op 3 cr.
(including work at the job).

Evaluation Methods

1. Review of completed documents by teacher.
2. Acceptance of document by client.
3. Client's evaluation of writer as having adequately performed at all stages in the sequence use questionnaire.

1. Review of completed design by teacher.
2. Acceptance of design by client.

1. Evaluation of writing by teacher-oral, exercises.
2. Acceptance of text by client.
3. Presentation of final document by writer.
4. Teacher's evaluation of adequate performance at all stages in the sequence-observations.

Objectives

4. Adapt, direct and produce information for a particular audience.

5. Organize and present written material in a clear, concise manner.

6. Produce information according to business and industry standards of style.

Learning Activities

Structured sequence of activities which train students in concepts of audience adaptation and develops flexibility in adapting to audience.

326-425 Copy Editing and Preparation* 2 cr.
326-537 Technical Writing Practicum* 2-3 cr.
326-306 Reporting and News Writing 3 cr.
326-346 Informational Writing 3 cr.
326-320 Business Writing 3 cr.
326-410 Writing and Selling
Feature Articles 2 cr.
326-515 Technical Writing 3 cr.
326-310 Journalism Practicum 1 cr.
326-399 Independent Study 1-3 cr. or
326-X49D Co-op 3 cr.
(including work at the job).

Structured sequence of activities which allow students to develop flexibility in organizing for an audience.

326-425 Copy Editing and Preparation* 2 cr.
326-537 Technical Writing Practicum* 2-3 cr.
326-XXX Advanced Grammar* 2 cr.
326-306 Reporting and News Writing 3 cr.
326-346 Informational Writing 3 cr.
326-320 Business Writing 3 cr.
326-515 Technical Writing 3 cr.
326-310 Journalism Practicum 1 cr.
326-399 Independent Study 1-3 cr. or
326-X49D Co-op 3 cr.
(including work at the job).

Structured sequence of activities which train students in style concepts and flexibility.

326-XXX Advanced Grammar* 2 cr.
326-306 Reporting and News Writing 3 cr.
326-346 Informational Writing 3 cr.
326-320 Business Writing 3 cr.
326-410 Writing and Selling
Feature Articles 2 cr.
326-515 Technical Writing 3 cr.
326-399 Independent Study 1-3 cr. or
326-X49D Co-op 3 cr.
(including work at the job).

* Required courses. A student may petition the specialization program director for an exception to the required courses based upon prior experience and may choose another course in the block. This specialization requires a minimum of 12 credits (10 credits of required courses and 2 credits of electives).

Evaluation Methods

1. Teacher evaluation that student has conceptual knowledge of adapting for an audience—tests, exercises.
2. Teacher evaluation that student has flexible ability in adapting for an audience—exercises.

1. Teacher evaluation that student has acceptable conceptual knowledge of organization and concise presentation—exercises.
2. Teacher evaluation that student has flexibility in presenting different organizations—exercises.
3. Acceptance of text by client.

1. Teacher evaluation that student has acceptable level of style conceptual knowledge—tests, exercises.
2. Teacher evaluation that student has acceptable style flexibility—exercises.
3. Acceptance of text by client.

Training and Human Resource Development

Introduction

Education is not the sole province of schools. Programs of instruction are conducted by many businesses, industries, in the military, and by other groups and organizations. Planning and providing this instruction is the province of professionals usually identified as "trainers." In our technological society, training programs have become increasingly complex and demands on trainers have increased. Greater expertise on their part is required. This all-university specialization addresses needs for preservice and in-service education for trainers.

This program is intended for students who have expertise in areas such as engineering, technology, education, business, government, military and labor, and who desire to become involved in development and implementation of training programs. These students bring to the program a knowledge of their professional

area and, in some cases, experience in training programs.

The all-university specialization consists of a series of courses and an internship. In all, completion of the all-university specialization will require at least 17 credits in course experiences, plus an additional 8 credits for the internship. The internship designed for the training specialization is central to the program, hence it appears as a part of the experience required to meet each objective of the specialization. The credits assigned to individual internships will vary from 2-8, depending on the extent of the specific objectives designed in the "education agreement." The length of the internships will vary, depending on the credit assigned, but in every case will be two or more weeks, full time, per credit earned. Contact the Office of the Dean, School of Industry and Technology, for further information.

Requirements for the Specialization

Intended Outcome	Learning Activity	Achievement Indicator or Evaluation Process
1. Introduction to concepts of training and human resource development.	198-550 Introduction to Industrial Training 2 cr. or 198-560 Training Systems in Business and Industry 3 cr.	
2. Utilize acceptable analysis procedures in determining training needs in the trainer's professional area.	199-534 Task Analysis 2 cr. 198-550 Industrial Training 2 cr. 198-589 Training Internships 2-8 cr. <i>Select either of the following:</i> 150-600 Organizational Leadership 3 cr. or 479-582 Human Resource Management 3 cr.	Successful completion of courses at left (7 credits). Successful completion of the contractual agreement of the internship as determined by the Stout supervisor in consultation with the business, industry, government or military supervisor, and successful completion of a field report. (Minimum 4 credits)
3. Design a training program based on established needs.	120-560 Audiovisual Communications 2 cr. 198-589 Training Internship 2-8 cr. <i>Complete a course from the appropriate school in curriculum development or course construction (2-3 credits) such as:</i> 190-405 Curriculum Technology/Vocational Ed. 2 cr. 190-638 Course Construction 2 cr. 196-401 Marketing Education Curriculum 3 cr. 199-638 Course Construction for Vocational Educators 2 cr. 421-438 Curriculum Development 2 cr. 242-301 Home Economics Curriculum 3 cr. <i>Complete a course on the psychology of learning (2 credits) such as:</i> 479-530 Psychology of Learning, 3 cr. 421-303 Educational Psychology, 2 cr. 199-674 Adult Education 2 cr. <i>Complete a course on teaching methods or strategies (2 credits) such as:</i> 190-205 Teaching Methods Technology/Vocational Education 2 cr. 196-301 Methods in Marketing Education 4 cr. 199-605 Methods of Teaching Vocational Education 2 cr. 421-714 Teaching Strategies 4 cr. 242-201 Teaching Techniques in Home Economics 2 cr.	Successful completion of courses at left (minimum 8 credits). Successful completion of the contractual agreement for the internship as evaluated by the business, industry, government or military supervisor, and by the Stout supervisor. Completion of a field report is required.

Intended Outcome

Learning Activity

Achievement Indicator or Evaluation Process

4. Implement and coordinate a training program; design and teach training courses.

198-589 Training Internship 2-8 cr.

Successful completion of the contractual agreement for the internship. Success is evaluated by the business, industry, government or military supervisor, and by the Stout supervisor. Completion of a field report is required.

5. Evaluate the effectiveness of training courses or programs.

198-589 Training Internship 2-8 cr.

Complete a course on evaluation and/or program evaluation (2 or 3 credits), such as:

421-742 Program Evaluation 3 cr.

421-641 Education Evaluation 2 cr.

190-406 Evaluation in Technical/Vocational Ed. 2 cr.

199-640 Instructional Evaluation in Vocational Ed. 2 cr.

242-710 Applied Evaluation in Home Economics 2 cr.

Successful completion of a course at left. (*Minimum 2 credits*). Successful completion of the contractual agreement of the internship as evaluated by the business, industry, government or military supervisor, and the Stout supervisor. Completion of a field report is required.

Note: Courses numbered 700 and greater are open to graduate students only.

MINORS

Minors are defined as either "studies in the discipline" or as "teaching." Teaching minors are those approved by the State Department of Public Instruction for certification. Requirements for the teaching minors include an education major, the methods course 421-305 in the minor, and some student teaching experience in the minor field, in addition to the required credits within the minor. The Approval Form for Minor Program must be submitted to the department offering the minor before starting the minor to assure an acceptable sequence of courses. Approval forms and minor program plans are available in the office of the department offering the minor.

Aging Family

This minor addresses a major societal concern about the improvement of quality of life for people in families of all ages. Sixteen to 19 credits are required. A practicum or clinical experience with the aging must be included. The minor must be planned with and approved by an adviser. Consult the Office of Associate Dean, School of Home Economics.

Art

Twenty-two credits are required. Required courses are 304-100, 304-101 and 304-522. The additional 13 elective credits may be accumulated to overview or concentrate in one area. Students may select courses in Drawing, Painting, Printmaking, Ceramics, Art History, Art Metals, Sculpture, Interior Design, Industrial Design and Graphic Design to fulfill the balance of the Art minor.

Aviation/Aerospace Studies

Twenty-three credits are required. Required courses for either option are 110-630, 110-631, 170-560, 195-300 and 372-221. Additional required courses for the teaching minor are: 110-635 or 110-X99 and 190-205 or 421-305. Some student teaching is required in Aerospace Education.

Biology

Twenty-two credits are required. Required courses are 308-132, 308-142, 308-152 and 308-306. Additional courses to complete 22 credits will be selected. Of these no more than two of the courses 308-150, 308-332 and 308-342 will be acceptable. The course 308-122 is acceptable only when taken before courses 308-142 and 308-152.

All students entering a minor program in biology will be assigned a faculty adviser to aid the student in proper scheduling of courses.

Business Administration

Twenty-two credits are required. The minor must be approved by the Department of Business. Required courses are 150-304, 160-206, 160-207, 160-330, 320-210 and 320-215 (18 credits). Elective courses may be selected from any business course or other course(s) approved by the Department of Business. (4 credits).

Chemistry

Twenty-two credits are required. Required courses are 311-115, 311-125 or 311-135, 311-136, 311-201, and 311-203. At least one of 311-204 or 311-531 or 311-535 plus additional selected chemistry courses to obtain 22 credits.

Coaching Certification/Minor

Twenty-two credits are required. Eighteen credits are required for certification with at least one course in each of five areas. Asterisk (*) denotes required courses. Area I: 366-340* and 366-350*; Area II: 367-350, 367-360 and 367-450; Area III: 367-401, 367-460, 367-461, 367-465, 367-470, 367-471 and 367-478; Area IV: 308-132*, 366-355*; Area V: 366-102 and 366-365*. Area VI contains elective courses for the 22-credit minor only: 229-202, 367-187, 367-345, 367-346, 367-347, 367-480, 367-490 or 367-499.

Computer Science

Twenty-two credits are required. The minor program is to be planned with and approved by the Department of Mathematics. Required courses are 354-144, 354-145, 354-241 and 354-341. Additional courses will be selected by the student and the department.

Economics

Twenty-two credits are required for either the teaching or for the discipline minor. Required courses are 320-210, 320-215, 320-325, or 320-470, 320-410 and 320-415. Additional economics courses will be selected. Both 320-335 and 320-440 and both 320-420 and 320-421 may not be applied to the minor. Students who take a teaching minor must also take 421-305, Teaching Practicum, 2 credits, in addition to the 22-credit minor.

English

Twenty-two credits are required plus two credits in Education Methods. A discipline minor in English consists of 22 credits in English.

Students must have 2.5 grade point in English courses to be awarded the minor. All English minor programs must be approved by the Department of English.

Students who wish to be certified to teach English must take a teaching minor in English. A teaching minor in English must include the following courses: 326-340, 326-402, 326-406, 421-305. From each of the following sets, students must choose at least one: a. 326-344 or 326-347; b. 326-350, 326-355, 326-360; c. 326-348, 326-400, 326-401. Additional credits will be selected from the offerings in English, exclusive of 326-101 and 326-102, 326-111, Honors, and 326-112, Honors, may be included.

A discipline minor in English for those who do not wish to be certified to teach is taken with an option in either literature or writing.

The English minor with an option in literature must include one course in English Literature (326-350, 400, 401, 406) and one course in American Literature (326-346, 360). The remaining 16 credits may be selected from the other literature offerings; one advanced writing course may be included; 326-347 is suggested.

The minor in English with an option in writing includes courses from the following blocks: a. language (minimum of three semester hours); b. literature (minimum of six semester hours); c. writing (minimum of 11 semester hours); and d. electives (minimum of two semester hours from any of the above blocks).

Food Technology

Thirty-four credits are required. Required courses are 150-200, 170-280, 229-124 or 229-240, 229-212, 229-638, 229-642, 229-650, 308-306, 311-511, 311-515 and 372-211.

This minor would combine best with food-related Home Economics majors, Industrial Technology, Business Administration and Applied Mathematics. Students may obtain forms and additional information from the Food and Nutrition Department office.

History

Twenty-two credits are required for either teaching or for the discipline. Required courses are 338-120, 338-121, 338-140 and 338-141. Additional history courses will be selected. Course 336-104 may be included.

Students who take a teaching minor must include two of the following courses: 338-322, 338-360, and 338-380 and, in addition to the 22-credit minor, must take 421-305 Teaching Practicum, 2 credits.

Journalism

Twenty-two credits are required. The student must have a 2.5 grade point in courses submitted for the minor. a. Required courses are 130-140, 326-306, 326-310, 326-410, 326-425, 120-504. b. At least one course must be chosen from this group: 326-320, 326-347, 326-515, 326-546. c. Seven more credits must be chosen, either from more courses in group b, or else from the following: 130-246, 160-370, 326-310, 326-518, 391-120/5, 391-244, 391-554, 479-579, 120-632, Field Experience and Independent Study.

Mathematics

A minor program in Mathematics may be chosen as a teaching or a discipline minor. Either program is to be planned with and approved by the Department of Mathematics. The program leading to teaching certification requires a minimum of 24 credits; 22 credits in the discipline and two credits in a teaching practicum. Required courses are 354-331 and 354-332, or 354-330, or 354-530; 355-153 or 355-156; 355-154 or 355-157; 355-262; 355-275; 355-370; 421-305; 354-X4X Computer Programming (354-141 or higher). Additional electives will be selected with guidance from the department.

Twenty-two credits are required for the non-teaching minor. Required courses are 355-153 and 355-154, or 355-156 and 355-157. A minimum of 9 credits must be selected from 355-158, 355-255, 355-262, 355-275, 355-350, 355-370, 355-371, 355-450, 355-451, 355-460, 354-331, 354-332, 354-446, 354-447, 355-XXX (approved elective); a maximum of six credits may be selected from 354-141, 354-144, 354-145, 354-240, 354-530. The course 354-530 may not be selected if either 354-331 or 354-332 is selected.

Both the teaching and non-teaching minors require a grade point of 2.0 or higher in all courses applied to the minor.

Physics

Twenty-two credits are required. Required courses are 372-529 and either 372-241 and 372-242 or 372-281 and 312-282. At least nine credits with a 300 number or greater must be included in the minor program. All minor programs must be planned with and approved by the Physics Department.

Property Management

Twenty-eight credits are required. Required courses are 130-180, 150-450, 160-206, 160-318, 160-365, 245-200, 245-8498, 245-6XX (3 credits) 245-6XX (2 credits); either 212-535 or 479-570; and five additional elective credits. The administrator of the Department of Habitational Resources coordinates advisement and approvals for the minor.

Psychology

Twenty-two credits are required. Required courses are 479-110, 479-460 or 479-561 and one of the following: 354-130, 354-530, 479-190, 479-690, 421-641, 479-251 or 479-552. Courses from which to select 11 or more semester credit hours include: any of the courses listed above not already taken; 303-220, 308-650, 308-651, 326-541, 387-250, 413-675, 421-303, 431-532, 459-585, 479-120, 479-150, 479-281, 479-390, 479-484, 479-530, 479-535, 479-540, 479-570, 479-571, 479-574, 479-581, 479-582. Field Experience and Independent Study in Psychology.

Sociology

Twenty-two credits are required. Required courses are 387-110 and 303-220. Additional sociology courses will be selected; 303-250 and 303-300 may be included.

Speech

The teaching minor consists of 24 credits. Required courses include 391-101, 391-102, 391-200, 391-202, 391-206, 391-208, 391-210, 391-310, 391-512 and 421-305. Additional courses may be selected from speech electives.

The discipline minor consists of 22 credits with the following four options: General Speech, Communications and Public Address, Radio-Television, and Theater. Each minor includes a minimum of 10 credits in the option plus 12 credits from the remaining three areas. A maximum of three credits may be selected from communication related courses offered by other departments when approved by the minor adviser.

A minimum grade point average of 2.5 with no grade lower than "C" is required for courses applied to the minor. Students must fulfill a residency requirement by successfully completing at least six (6) credits of the minor from courses offered by the Speech Department. The minor adviser will certify completion of the residency requirement.

Technical Writing

Twenty-two credits are required. Required courses are 326-347, 326-425, 326-515, 326-546. Select at least two courses from 326-306, 326-320, 326-346, 326-410, 326-525. Select up to six credits from 130-140, 130-246, 130-414 A-C, 160-370, 300-X49, 326-XXX (any literature), 365-301, 391-508, 600-504.

Tourism

Twenty-four credits are required. Required courses are 245-240, 245-340, 245-341, 245-640, 245-645 and 245-682. The language requirement consists of four credits of (French) 328-101, 328-102, (Spanish) 329-103, 329-104 or a comparable number of credits of a well-known language used in international travel and trade, such as German, Italian, Russian, Chinese, Portuguese or Japanese. The remaining five credits are composed of electives approved by the administrator of the habitational resources department.

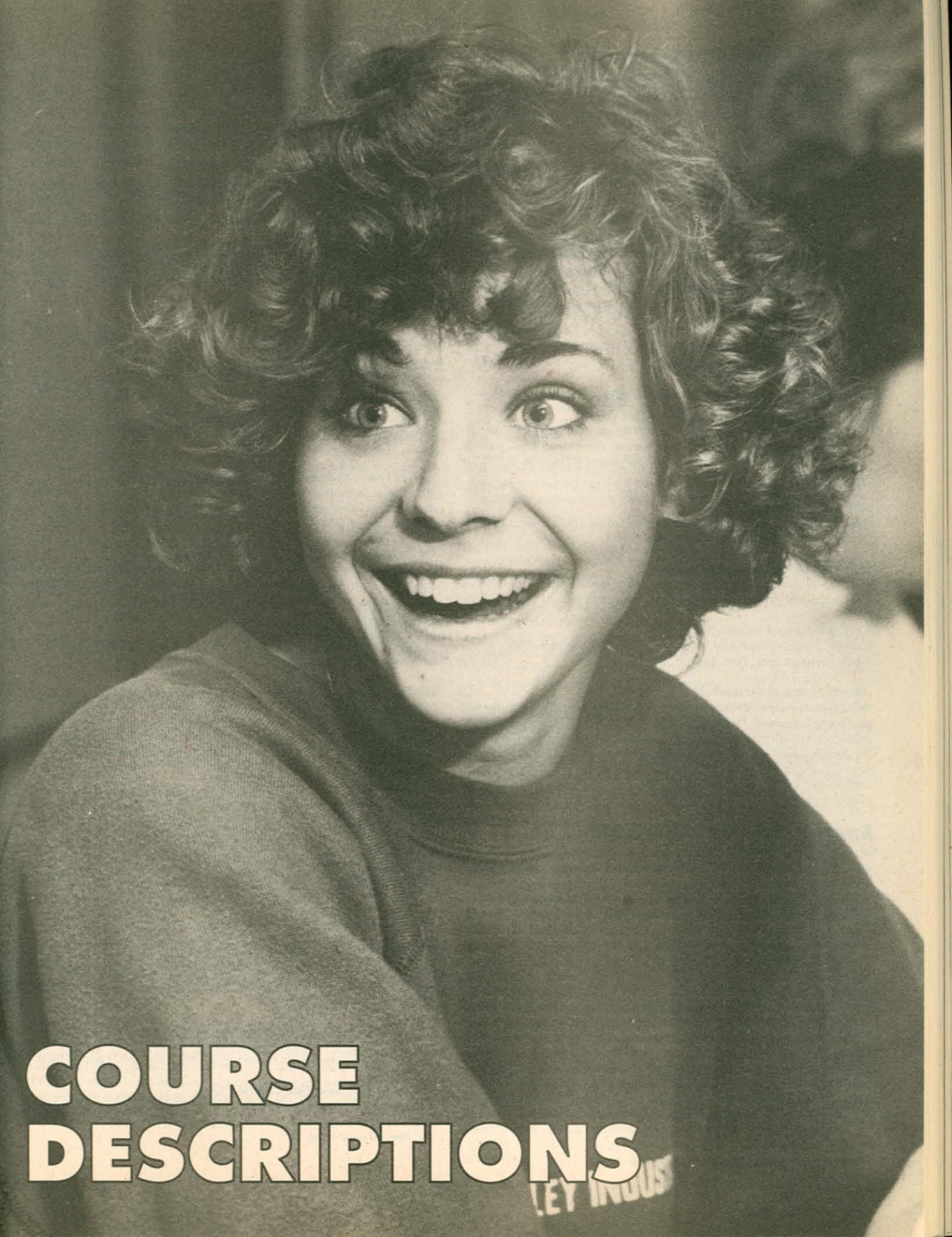
Traffic Safety

Twenty-two credits are required. Required courses are 140-271, 140-375, 140-377, 140-574 and 140-575; select at least seven credits from 140-580, 190-205, 190-405, 242-201, 242-301, 366-340, 413-501, and 421-303.

Women's Studies

Twenty-two credits are required. Required courses are 300-510, 300-511, 326-372, 387-275, 479-574. Additional courses will be selected from courses relevant to women's studies in various disciplines, including Independent Study. The minor must be planned with and approved by an adviser. Consult the Office of the Dean, School of Liberal Studies.





COURSE DESCRIPTIONS

LEY INDUST

Course Numbering System

Stout uses a six-digit course numbering system. The first three digits designate the school and department offering the course. The School of Industry and Technology courses begin with 100; Home Economics - 200; Liberal Studies - 300; and Education - 400. Courses beginning with 500 are administered by the Graduate College. In June of 1988, Learning Resource courses formerly numbered in the 600 series were changed to the 120 series in the School of Industry and Technology.

The second three digits of the course number refer to the course level. The 100 series is primarily for freshmen; 200 - sophomores; 300 - juniors; and 400 - seniors. The 500 series is junior/senior level but is also appropriate for graduate credit. The 600 series is senior and graduate level; 700 series is graduate level only; and the 800 series is available to graduate students at the Ed.S. level only.

Interdepartmental - Industry and Technology

100-X49 Cooperative Education Experience 3-8 Cr.

Work and study in an approved position to gain business/ industrial/ other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2," "3," or "4." F-W-S

100-110 Craft Seminar I 1 Cr.

Seminar emphasizing historical perspectives of the crafts field, contemporary trends and the nature of aesthetics. F-W-S

100-500 Introduction to Futures Study 2 Cr.

Methods of future projection, orienting thought toward future alternatives; impact of future problems on major areas of human activity. F-W

100-525 Advanced Futures Study 1 Cr.

Student-designed futures study based on application of methods to student's program area. Prerequisite: 100-500.

100-590 Technical Service Schools .5 - 6.0 Cr.

Some special-purpose technical courses offered by manufacturers are suitable for college credit. Guidelines: 1. student makes all arrangements with manufacturer offering course; 2. one credit is awarded for each full week (40 clock hours) of attendance; 3. student enrolls and pays fees at university prior to taking course; 4. approval of Dean of School of Industry and Technology needed before enrolling for credit; 5. Graduate College approval required for students taking course for graduate credit. S

Energy and Transportation

110-X49 Cooperative Education Experience 3-8 Cr.

Work and study in an approved position to gain business/ industrial/ other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2," "3," or "4." Prerequisite: department chairperson. F-W-S

110-X97 Field Experience 1 Cr. F-W-S

110-X98 Field Experience 1-2 Cr. F-W-S

110-103 Power Mechanics 2 Cr.

Internal and external combustion heat engines, mechanical and fluid transmission systems; present and future applications and limitations. Laboratory work emphasized. Special course fee. F-W-S

110-104 Fundamentals of Electronic Systems 3 Cr.

Electricity/electronics in its daily personal, home, auto and job applications. A non-mathematical, consumer-oriented approach to what makes electrical devices work and practical care and upkeep of them. For non-technical programs. F-W

110-199 Independent Study 1-3 Cr. F-W-S

Course Scheduling

A letter system has been developed to help students plan course schedules. Letters following course descriptions indicate when a course is usually offered. F - Fall Semester; FO - Fall Semester odd numbered years; FE - Fall Semester even numbered years; W - Winter Semester; WO - Winter Semester odd numbered years; WE - Winter Semester even numbered years; S - Summer Session; SO - Summer Session odd numbered years; SE - Summer Session even numbered years. Courses not lettered follow no usual pattern. The system does not guarantee that a course will be offered during a particular semester.

Courses which are repeatable for credit and those for which a special course fee applies are also noted in the catalog description.

110-204 Electricity/Electronics Fundamentals 3 Cr.

Electricity/Electronics, associated phenomena related to basic electrical and electronics systems. Examines devices, operation, application, theory from power devices to electronic devices, controls to microprocessors. Special course fee. Prerequisite: college level mathematics capability. F-W-S

110-209 Power Mechanics - Small Engine Service 2 Cr.

Mechanical principles and functions of small power units. Operation, maintenance, tune-up and overhaul procedures of small two- and four-cycle engines. F-W

110-210 Introduction to Automotive Technology 2 Cr.

Consumer knowledge on automobile chassis, internal combustion engine components, fuels, ignition, suspension, and drive systems including service and adjustment techniques. Special course fee. F-W

110-260 Introduction to Fluid Power 2 Cr.

Basic fluid mechanics, pneumatics, hydraulics, control systems and common industrial circuits. Special course fee. F-W-SE

110-270 Circuit Analysis 4 Cr.

Introductory concepts and analysis techniques in DC and AC circuit analysis including current, voltage, resistance, capacitance, inductance, impedance, loop and node equations, transients, network theorems, real, reactive, and apparent power in AC circuits. Special course fee. Prerequisites: 355-153 or 355-156, 372-221, Industrial Technology; 355-156 (355-157 corequisite) Applied Technology.

110-280 Networks 4 Cr.

Networks based on differential equations. Classical and Laplace transform solution of network equations, complex impedance, introduction to state variable theory, two-port parameters. Frequency response techniques including Fourier series and Fourier transforms. Prerequisites: 355-255 and 110-270. F-W

110-299 Independent Study 1-3 Cr. F-W-S

110-303 Mechanical Power Transmission 3 Cr.

Fundamentals of mechanical power transmission: theory of operation, selection of components, suggestions for application, and analysis of systems. Special course fee. F-W

110-308 Thermodynamics of Internal Combustion Engines 2 Cr.

Fuels, oxidants and propellants; combustion, combustion processes and gas laws. Special course fee. Prerequisites: 355-120, 355-121 and 372-221. W

110-314 Chassis and Ride Control 2 Cr.

Automotive suspension systems, ride control and brakes. Laboratory work on wheel alignment, balancing, steering systems and brake rebuilding. Special course fee. W

110-315 Cooling and Heating 1 Cr.

Theory of operation, typical routine service and component diagnostic procedures for automotive air conditioning, heating and cooling systems. Special course fee. W

110-344 Electric Power and Distribution 2 Cr.

Single and polyphase residential, commercial, industrial wiring systems, codes and standards. Special course fee. Prerequisite: 110-204. W

110-348 Motors and Generators 2 Cr.

Rotating machinery concepts; D.C. generators, motors; synchronous motors, generators; induction motors; controls. Prerequisite: 110-204. F-W

110-361 Industrial Hydraulics 2 Cr.

Theory, operation and construction of hydraulic systems and circuits; pumps, reservoirs, lines, control valves and actuators. Prerequisite: 110-260. F

110-362 Industrial Pneumatics 2 Cr.

Theory, operation and construction of pneumatic and pneumatic/hydraulic system components, with application to basic industrial circuits; compressors, plumbing, control valves and actuators. Special course fee. Prerequisite: 110-260. W

110-371 Solid State Electronics 3 Cr.

Basic semiconductor theory for solid state devices including diodes and transistors. Biasing and small signal analysis of transistor amplifiers. Introduction to operational amplifiers and integrated circuit terminology. Special course fee. Prerequisite: 110-270. F-W

110-376 Electronics Fabrication Laboratory 2 Cr.

Overview of thick-film/thin-film microelectronics - fabrication, design and application. Printed circuit-board design and fabrication, and principles of soldering. Special course fee. Prerequisite: 110-371. W

110-381 Linear Electronic Circuits 3 Cr.

Analysis of integrated and discrete transistor circuits including common transistor arrays, analog signal processing using operational amplifiers, negative feedback amplifiers, high and low frequency response, oscillators, class A and B power amplifiers and electronic voltage regulator circuits. Special course fee. Prerequisite: 110-371. F-W

110-399 Independent Study 1-3 Cr. F-W-S**110-411 Electrical Circuits and Tune Up 3 Cr.**

Diagnosing problems in automobile electrical, fuel and exhaust systems. F

110-473 Digital Logic and Switching 3 Cr.

Analysis and synthesis of combinational and sequential switching circuits. Boolean algebras and number systems, switching functions, minimization, single and multiple output networks, realization of functions. Finite state sequential machines, state transition diagrams, machines and state equivalence, incompletely specified machines, machine realization. Algorithmic state machines and asynchronous state machines. Special course fee. Prerequisite: 110-371. F-W

110-474 Digital Electronics 3 Cr.

Junction and field effect transistors as switches, basic digital and switching circuits, bipolar and MOSFET logic families, digital integrated circuit schemes and building blocks, multivibrators, memory elements, digital to analog and analog to digital converters. Special course fee. Prerequisites: 110-371 and 110-473. F

110-482 Electronic Communication Fundamentals 3 Cr.

Investigation of amplitude modulation, frequency modulation, single-side band and pulse modulation electronic communication systems. Theory of modulation and demodulation, noise and a study of transmitter and receiver configurations. Special course fee. Prerequisites: 354-331 and 110-381. F

110-489 Business and Industrial Internship 1-8 Cr.

Off-campus work and study in an approved paraprofessional position in business and industry. Salaried appointments in area of student concentration with cooperating companies for a semester or summer session. Prerequisite: consent of department.

110-499 Independent Study 1-3 Cr. F-W-S**110-501 Transportation 2 Cr.**

Needs, preparation, methods, destination and control of transportation as it relates to society and industry. Special course fee. F-W

110-504 Energy Technology 3 Cr.

Energy sources, and power applications. Economical, political and environmental ramifications. Conversion, storage, control, instrumentation, transmission and utilization. Special course fee. F-W-S

110-506 Energy Management 2 Cr.

Evaluate industrial facilities and equipment for energy efficiency and feasibility of modification for improving consumption; current and alternative techniques for overcoming energy loss. Special course fee. W

110-511 Carburetion and Emission 2 Cr.

Operational principles, diagnostic procedures and defective component repair of fuel and emission control systems. Special course fee. Prerequisite: 110-411. W

110-523 Service Management 2 Cr.

Auto service management, planning and layout of service facilities, selection of tools and equipment, and development of curriculum and/or work schedule. W

110-530 Artificial Intelligence Applications 3 Cr.

Methodology and problem-solving techniques of contemporary application-oriented artificial intelligence. Prerequisite: 354-341. F-W-S

110-542 Computer Applications in Electronics 3 Cr.

Microprocessor application at a system level. Use of hardware and software design aids such as assemblers, text editors, compilers, read-only memory emulators and system projects related to specific microprocessors. Introduction to the 16-bit microprocessors, 8-bit slice processors, signal processors and controllers. Prerequisite: 110-575. W

110-551 Introduction to Microprocessors 3 Cr.

The examination of the working components of a simple microprocessor system, machine language programming, registers, memory, input-output and application such as security, energy monitor, control, communication, transportation and others. Prerequisites: 300-101 and basic electronic background or equivalent. F-W

110-552 Electronic Communications 3 Cr.

Electrical/electronic communication systems; modulation, demodulation, r.f. and i.f. amplifiers, alignment, antennas, composite TV signal, receivers, transmitters. Prerequisite: 110-204. F

110-553 Instrumentation and Control 3 Cr.

Industrial measurement, control, open loop, closed loop, analog, digital, electric/electronic, fluidic, mechanical, pneumatic. Prerequisite: 110-371. W

110-554 Electronics/Robotics 3 Cr.

Robotic power and control systems, including base power sources, microprocessor controllers, data handling and programming. Special features such as voice synthesis, motion detection, light detection and noise detection are overviewed. Prerequisites: 110-551 and 110-204.

110-555 Electronic System Application 3 Cr.

Electrical control, interfacing, signal conversion, sensor operation, feedback and electrical power devices as they are used in common applications of manufacturing, construction, transportation and communication systems. Special course fee. Prerequisite: 110-204.

110-557 Introduction to Principles of Technology I 3 Cr.

Basic technological applications in electrical, mechanical, fluid and thermal systems. Review system applications, utilizing concepts of force, work, rate, resistance, energy, power and forced transforms.

110-558 Introduction to Principles of Technology II 3 Cr.

Complex technological applications in electrical, mechanical, fluid and terminal systems relating these systems to the principles of momentum, waves, energy converters, transducers, radiation optical systems and time constance.

110-574 Microprocessor Fundamentals 3 Cr.

Overview of present day microprocessor technology. Function, analysis and operation of selected microprocessors. Memory, input/output interfacing devices. Basic machine/assembly and structured language programming and hardware application. Special course fee. Prerequisite: 110-371. F-W

110-575 Microprocessor Interfacing 3 Cr.

Interfacing principles of microprocessor based microcomputer systems. Input/output techniques, input/output mapping, asynchronous/synchronous communication, parallel/serial conversion. Microprocessor application such as control systems, energy monitor, cooking and communications. Special course fee. Prerequisite: 110-574. F-W

110-582 Electronic Communication Systems 3 Cr.

Modern communication systems including transmission lines, wave guides, electromagnetic propagation, basic antenna theory. Introduction to digital communication including bit error probability, digital filtering, pulse code modulation and error detecting and correcting codes. Special course fee. Prerequisite: 110-482. F

110-583 Fundamentals of Control 4 Cr.

Analysis of elementary control systems via classical and Laplace transform techniques, frequency response and root locus plots, block diagrams and transfer functions, open and closed loop systems, stability considerations, digital to analog conversion, microprocessor based control systems. Prerequisites: 110-280 and 110-574.

110-586 Instrumentation 3 Cr.

Descriptive and analysis of thermal, mechanical, acoustic, optical, pneumatic and electromagnetic sensors, measuring systems, calibration, performance of measuring systems, analog and digital signal conditional. Measurement of frequency and time and analysis and performance of display units. Prerequisite: 110-583. W

110-587 Optical Fiber Communications 3 Cr.

Fiber optic communications, optical waveguides, analog and digital modulation techniques, transmitters, receivers, repeater technology, analysis of signal distortion, losses and dispersions, applications in telecommunications and computer networks. Special course fee. Prerequisite: 110-280. F-W

110-595 Seminar 2 Cr.

Specific content is designed to upgrade competencies of participants. Content will change to reflect current state of the art in electricity-electronics or power mechanics. Special course fee. F-W-S

110-599 Independent Study 1-3 Cr. F-W-S**110-603 Problems in Power Transmission 3 Cr.**

Analysis of power transmission problems. Recommendation of alternate solutions including advantages, disadvantages and economic considerations. Prerequisites: 110-240, 110-260, 110-303, 110-348 and 110-548. W

110-614 Transmission and Drive Trains 2 Cr.

Power transmission through gears, clutches and drives common to the automobiles. Fluid couplings, gear sets, differentials, transmissions and drive lines. Special course fee. Prerequisite: 110-314. W

110-615 Engine Machining and Rebuilding 3 Cr.

Rebuilding of four-stroke cycle engines including all necessary precision machining; cylinders, blocks, valve trains and reciprocating parts. Special course fee. F-W

110-622 Automotive Practicum 2 Cr.

Troubleshooting and servicing all automobile functions as typically done in an auto service facility. F

110-630 Aviation/Aerospace Studies 3 Cr.

Classroom, field and optional flight experiences relating to aviation and aerospace industries; details of space exploration, federal licensing regulations, air traffic control and related career guidance information. F

110-631 Private Pilot's Ground School 3 Cr.

Preparation for F.A.A. Private Pilot's Certificate: airplane utility, flight manuals, safety, federal aviation regulations, navigation, communication, weather, general aircraft operation and flight theory. Special course fee. F-W

110-635 Introduction to Flight 2 Cr.

Flying a single-engine aircraft: applied flight theory, dual flight instruction and solo flight. Prerequisite: 110-631.

110-683 Control Systems 3 Cr.

Introduction to modern control theory, state variable theory of control systems, controllability and observability, stability of linear and nonlinear systems, discrete time control systems, elementary concepts of optional control systems, control law implementation using microprocessors. Prerequisites: 110-583 and 355-275 (corequisite). W

110-689 Development Practicum 4 Cr.

Project research and design, specification control drawing documentation. Project construction and a technical paper presentation. Special course fee. Prerequisite: advanced standing.

110-695 Automotive Service Experience 2 Cr.

Off-campus job in garage or dealership provides skills and knowledge of automotive servicing beyond classroom and laboratory work. W

110-699 Independent Study 1-3 Cr. F-W-S**Media Technology****120-299 Independent Study 1-3 Cr. F-W-S****120-399 Independent Study 1-3 Cr. F-W-S****120-499 Independent Study 1-3 Cr. F-W-S****120-504 Elementary Photography 2 Cr.**

Fundamentals of photography: aesthetics, basic theory, camera operation, film selection, lighting, roll-film processing, contact printing, enlarging and print finishing. Student must provide own camera. Special course fee. F-W-S

120-535 Film - History and Appreciation 3 Cr.

Evolution of motion picture film as medium of mass communication and aesthetic expression; contributions of noted film producers. F

120-540 TV - Appreciation and Criticism 2 Cr.

Analysis of major TV program types; positive and negative contributions of TV; commercials; children's programming; TV viewing diary; development of TV Action Plan. Special course fee. W

120-560 Audiovisual Communications 2 Cr.

Methods of evaluating and using audiovisual materials effectively; experience in operating equipment; basic techniques of media preparation. F-W-S

120-561 Advanced Graphic Production 2 Cr.

Advanced techniques for planning, designing and producing materials for instruction and graphic training. Special course fee. Prerequisite: 120-560. F-W-SE

120-570 Computer Assisted Interactive Video 3 Cr.

Design, production and evaluation of interactive video applications. Analysis of various hardware and software systems. Prerequisite: consent of instructor or curriculum course. S

120-580 Microcomputer Applications – Words/Data 2 Cr.

Applications of specific commercial microcomputer programs for personal, professional and student use. Emphasis on word processing, numerical and file management programs. F-W-S

120-599 Independent Study 1-3 Cr. F-W-S**120-600 Workshop 1-3 Cr.**

Special topics in media technology providing hands-on or experiential learning activities. Specific content and title to reflect the topic of the workshop.

120-605 Advanced Photography 2 Cr.

Advanced monochromatic photography: aesthetics, advanced theory, view-camera techniques, studio lighting, materials and equipment selection, sheet-film processing, specialized processes and techniques. Special course fee. Prerequisite: 120-504. F-W-S

120-612 Nature Photography 2 Cr.

Fundamentals of camera techniques composition, aesthetics, exposure and light in relationship to animals, plants, water, weather and landscapes. Special emphasis on proper photographic equipment and field techniques for nature photography. Prerequisite: 120-504. F-W-S

120-614 Slide Duplication and Copystand Techniques 1 Cr.

Selection and use of equipment for copystand work and slide duplication; discussion of and practice with filters and multiple exposures. Prerequisite: 120-504. S

120-625 Broadcast TV Production Internship 1-4 Cr.

Practical experience in all phases of broadcast color television program production. Student develops internship program with teleproduction center manager. One credit per 40 hours of work experience. Prerequisites: 120-630 and 120-632.

120-630 Audio/Film/TV Production Fundamentals 3 Cr.

Instructional film, audiotape and videotape production fundamentals. For media technology majors; not open to those taking 391-554. Special course fee. W-S

120-640 Telecommunication Systems and Teleconferencing 2 Cr.

Interactive teleconferencing techniques. Applications, effective utilization and cost-effectiveness of information distribution systems, including telephone, television, teletext, videotext, view-data, cable TV, slow-scan TV, and computers. Survey of transmission systems, including telephone lines, satellites, coaxial cable, microwave and fiber optics. Special course fee. F-W-S

120-645 Color Photography 2 Cr.

Aesthetics, color theory, film selection, lighting, copy techniques, slide duplication, reversal and negative color film processing, and color printing. Special course fee. Prerequisite: 120-504. F-W-S

120-654 Small Format Video Production 1 Cr.

Selection of small format video systems to meet varied production needs. Planning and shooting video programs using Beta or VHS camcorders or 8mm equipment. Participants must provide their own personal or institutional video equipment. S

120-655 Slide/Tape and Multi-Image Production 2 Cr.

Practical experience in planning, producing and presenting media productions for instruction/training. Advanced applications of photography, audio, video, and programming related to slide/tape and multi-image presentations. Special course fee. Prerequisites: 120-560 and 120-630. S

120-699 Independent Study 1-3 Cr. F-W-S

Graphic Communications

130-X49 Cooperative Education Experience 3-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2," "3," or "4." Prerequisite: consent of instructor or department chairperson. F-W-S

130-X97 Field Experience 1 Cr. F-W-S**130-X98 Field Experience 1-2 Cr. F-W-S****130-103 Communication and Information Technology 3 Cr.**

Limits and possibilities of various communication components and systems applied to the solution of communication problems in business and industry. Intended for General Business Administration students. Credit not available to students who have completed 130-100. Special course fee. F-W-S

130-110 Drafting 2 Cr.

Projection concepts for representing 3-dimensional forms on 2-dimensional surfaces; shape and size description and drafting techniques. Special course fee. F-W-S

130-120 Construction Drafting 2 Cr.

Architectural drafting with emphasis on theory and delineation. Drawing media and equipment are utilized in solving problems relating to building construction. Special course fee. F-W

130-140 Graphic Arts 2 Cr.

Concepts of reproducing visual images; design and layout, composition, photo conversion, image carriers, image transfer, finishing and binding, and economics of graphic arts. Special course fee. F-W-S

130-180 Hospitality/Living/Institutional Facility Planning 2 Cr.

Basic architectural drafting and design content, concepts, media, techniques, and methods to record and communicate ideas and solve problems. Special course fee. F-W-S

130-199 Independent Study 1-3 Cr. F-W-S**130-212 Descriptive Geometry 3 Cr.**

Graphic representation and solution of space problems involving points, lines, planes, intersections, revolutions and vectors. Prerequisite: 130-110. W

130-221 Architectural Design I 3 Cr.

Develop graphic simulation techniques and problem-solving abilities; site planning, space requirements, housing codes, structure, light frame construction, solar and earth integrated designs, mechanical and electrical systems. Prerequisites: 130-110 or 130-120 or 130-180 or consent of instructor. F-W-S

130-234 Computer Assisted Design and Drafting 2 Cr.

PC based CADD; solve problems with the assistance of computer hardware and software. Generate drawings for architectural and mechanical design applications. Special course fee. Prerequisite: 130-110 or 130-120 or 130-180 or consent of instructor. F-W-S

130-246 Typography 2 Cr.

Printing and art mediums, photography, layout and keylining, type classification and selection, composition practices, color systems and materials. Lab work in preparing copy for production. Prerequisite: 130-140. F-W

130-251 Composition 3 Cr.

Photo-typesetting; photo-lettering, text and editing systems; paste-up and copy preparation techniques; copyfitting, word and image processing, telecommunications and interfacing to computer systems. Special course fee. Prerequisite: 130-140. F-W

130-263 Flexography and Gravure 2 Cr.

Flexographic and rotogravure printing processes. Design for flexo and gravure, film and image assembly, plate and cylinder preparation and printing by the two processes. Present applications and future trends. Prerequisite: 130-140.

130-290 Mechanics of Solids I 3 Cr.

Technical calculations, dimensional analysis, freebody diagrams, force systems and equilibrium, friction, elementary statically determinate framed structures, and simple stress. Prerequisite: 372-231. F-W

130-291 Mechanics of Solids II 3 Cr.

Stress and strain, torsion, bending of beams, compound stress, principal stress, deflection of beams, statically indeterminate members and columns. Prerequisite: 130-290 or 372-531. F-W

130-299 Independent Study 1-3 Cr. F-W-S**130-311 Technical Drafting 3 Cr.**

Drafting concepts and techniques in manufacturing industries; graphic language of orthographic projection for use in design, assembly, manufacturing and sales. Special course fee. Prerequisite: 130-110. F-W-S

130-325 Architectural Design II 3 Cr.

Programming and analysis, design solution, presentation and design development drawings for commercial and/or public buildings; scale, site, codes, energy, acoustics, structure and their relation to form. Prerequisite: 130-221. W

130-341 Graphic Communications Processes 2 Cr.

Offset lithography, relief, screen printing and high contrast photography for general industrial arts teacher. Prerequisite: 130-140. W

130-355 Line and Halftone Photography 2 Cr.

High contrast photography in graphic reproduction processes; dealing with line, halftone, duotone, and special-effect film negatives and positives. Special course fee. Prerequisite: 130-140. F-W-S

130-359 Image Assembly and Platemaking 2 Cr.

Prepress operations and systems. Imposition, film assembly, contacting, proofing, offset platemaking and automated prepress systems. Special course fee. Prerequisite: 130-140.

130-366 Image Transfer 3 Cr.

Preparation of image carriers and printing on paper and other substrates; lithography, flexography, gravure, screen printing, electrostatics, and associated procedures for transferring images from film to substrate; reproducing line and halftone copy in one or more colors; image/film assembly, step and repeat, multiple page imposition, platemaking, press systems, densitometry, ink, paper problems and quality control. Special course fee. Prerequisite: 130-140. F-W

130-370 General Binding 2 Cr.

Finishing, fastening and covering printed materials: mechanical, loose-leaf, wire staple, sewn and perfect binding. Special course fee. Prerequisite: 130-140. F-W

130-399 Independent Study 1-3 Cr. F-W-S**130-414 Technical Illustration 1-3 Cr.**

The presentation of a highly organized approach to learning technical pictorial drawings. Emphasis is on isometric views, inking techniques, and preparation of original art to final product. Prerequisite: 130-212. W

130-424 Architectural Technology 3 Cr.

Space programming and planning, working drawings for commercial and industrial buildings. Building codes, energy requirements, construction contract documents, structural materials and systems, building materials and systems. Prerequisite: 130-110 or 130-120. F-W

130-433 Tool and Die Design 2 Cr.

Design and application of jigs and fixtures, selection of tooling materials, tolerancing gauges for checking work, stamping die design and mold design. Prerequisites: 130-311 and 372-325. F

130-475 Printing Economics 3 Cr.

Estimating production costs, specification of equipment, production scheduling, facility planning, materials inventory and control, and systems that expedite graphic reproductions. Prerequisite: 130-140. F-W

130-489 Business and Industrial Internship 1-8 Cr.

Off-campus work and study in student's area of concentration; approved salaried position with cooperating company for a semester or summer session. Prerequisite: consent of department. F-W-S

130-499 Independent Study 1-3 Cr. F-W-S**130-504 Communications and Information Systems 1-3 Cr.**

Overview of the communications industry. Use of systems to create, process, transmit, receive and evaluate information. Special course fee. Prerequisite: 130-103. F-W-S

130-505 Office Automation Technology 3 Cr.

Automation information concepts and technology used in office including both communication, storage and retrieval systems. Emphasis on cost effective selection and implementation problems. Special course fee. Prerequisite: 130-103 or consent of instructor. F-W-S

130-506 Introduction to Telephony 2 Cr.

Principles of current technologies, systems, and trends in telephone communication systems design and applications. Special course fee. F-W

130-507 Artificial Intelligence Applications in Business 2 Cr.

Artificial intelligence applications in business and industry with emphasis on office information system characteristics and implementation. Prerequisite: 130-505. F-W

130-509 Business Applications in Desktop Publishing 1-2 Cr.

Office automation and information systems for generating business formats on a computer network. Computerized forms, summaries, and related graphics utilizing automated pagination software, and existing software systems print commands with laser printer characteristics. F-W-S

130-526 Building Construction Specifications 2 Cr.

Construction specification organization and basic specification preparation skills; role of specifications in building process and relationship of specifications to other construction contract documents. F-W

130-527 Site Engineering 2 Cr.

Use of surveying instruments, techniques and computation to measure and describe land configurations; construction surveying including contours, grades, cut and fill, and drainage; soil analysis. Special course fee. Prerequisites: 130-110 and trigonometry. F-W-S

130-528 Structural Design 3 Cr.

Analysis, selection and delineation of concrete, steel and wood structural components and systems in buildings. Prerequisite: 130-291 or 372-325. F

130-532 Mechanical Design 4 Cr.

Analysis and design of machine elements: gearing bearings, shafting and friction devices. Prerequisites: 130-291 or 372-325; 130-592 or 372-533; 130-593. F

130-537 Mechanical Design Drafting 2 Cr.

Design of a machine, specifications, layout, calculations, bills of material, detail and assembly drawings. Prerequisite: 130-311. W

130-543 Graphic Arts Production Techniques 2 Cr.

The study of techniques associated with the production of two-dimensional printed media, with emphasis on design, production and evaluation, also including client and printer relationships. Prerequisite: 130-366. F-W-S

130-545 Publications Production 1 Cr.

Principles of designing, printing and distributing publications for business, education and industry. Prerequisite: 130-140. Repeatable for credit. F-W

130-557 Color Separation 2 Cr.

Color separation from reflected and transmission copy; filters and densitometry; direct and indirect photographic color separation methods. Special course fee. Prerequisite: 130-355. F-W-S

130-561 Screen Printing 5-2.0 Cr.

Screen printing technology-applications, components and techniques. Survey of various materials and equipment used in screen printing. Production of screen printed products. Special course fee. Prerequisites: 130-140 or 214-592 or 304-518, or consent of instructor. F-W

130-592 Mechanics of Machinery I 3 Cr.

Dynamics of machinery: rectilinear and curvilinear motion; translation and rotation of a rigid body, force-acceleration equation, impulse and momentum; work, power and energy; balancing and vibration. Prerequisites: 130-290 or 372-531; 355-153. W

130-593 Mechanics of Machinery II 3 Cr.

Graphical analysis and synthesis of linkages, cams, gear trains, displacement, velocity, acceleration and dynamic forces. Prerequisite: 130-290. F

130-595 Seminar 1-2 Cr.

(Title will reflect specific graphic and industrial communication content). Current and projected communication methods, concepts, technologies and innovations in graphic communications. S

130-599 Independent Study 1-3 Cr. F-W-S**130-629 Land Use Planning 3 Cr.**

Area planning; problems in design of building complexes; exterior space, land use, relationships between buildings and supporting facilities; contemporary regional and city planning and its historical roots. Prerequisite: 130-325. F-W

130-636 Computer Assisted Design Problems 2 Cr.

Advanced CADD applications. Construct three dimensional wire-frame drawings. Perform finite element analysis on select components. Customize software for specific applications. In-depth analysis of CADD applications in mechanical and architectural design. Prerequisites: 130-234 or consent of instructor. W

130-699 Independent Study 1-3 Cr. F-W-S

Safety

140-X97 Field Experience 1 Cr. F-W-S**140-X98 Field Experience 1-2 Cr. F-W-S****140-271 Safety Principles and Practices 3 Cr.**

Principles of accident prevention; school safety programs; identification of resources and content: motor vehicle, home, public, farm, industrial, school, recreational and civil defense. FE

140-374 Driver Education Laboratory Methods and Techniques 3 Cr.

Role, aims and objectives of laboratory programs in driver and traffic safety education; multiple-student teaching techniques, simulation on-street behind-the-wheel and multiple-car driving range experiences provided. S

140-375 Driver and Traffic Safety 3 Cr.

Classroom phase of driver education: curriculum selection and use, instructional resources and materials, and driver education administration. FO

140-499 Independent Study 1-3 Cr. F-W-S**140-574 Alcohol, Drugs and Accident Prevention 2-3 Cr.**

Impact of alcohol and drug use on accident prevention programs; current efforts to rehabilitate alcohol and drug abusers. SO

140-575 Behavioral Approach to Accident Prevention 2-3 Cr.

Behavioral aspects of accident prevention from physiological, psychological, sociological and cultural perspectives; identifying, understanding and modifying attitudes and behavior. SE

140-576 Driver Improvement Programs 2 Cr.

Driver improvement through educational methodology, curriculum planning and research; adult, mentally retarded, orthopedically handicapped, chronic violator and accident repeater programs. Prerequisite: six semester hours in safety course week.

140-580 Driver Education for the Handicapped 2-3 Cr.

Curriculum content, instructional methods and techniques, legal implications, driving aids and financial assistance; lab work in teaching handicapped people to drive. S

140-581 Occupational Safety/Loss Control 2-3 Cr.

Overview of occupational accident prevention programs: techniques of measurement, cost of accidents, locating and identifying accident sources and problems of selecting corrective action. F-W-S

140-583 Voluntary OSHA Compliance 2-3 Cr.

Implications of federal Occupational Safety and Health Act of 1970 on industrial operations, systematic self-inspection and compliance procedures. F-S

140-584 Safety Engineering Standards 2 Cr.

Analysis of legal and voluntary industrial workplace standards and regulations. F

140-586 Fire Protection/Prevention 3 Cr.

Behavior of fire: chemistry, protection, prevention and control. W

140-587 Human Factors Engineering 3 Cr.

Man's physiological and psychological abilities in man/machine interface, working performance, reliability, comfort and safety; effective design of man and work environment as a cybernetic system. Prerequisites: 479-110 and 354-130. F

140-588 Construction Safety 2 Cr.

Analysis of hazards, control procedures and systems related to typical construction equipment, tools and materials safety problems. F-W

140-589 Fleet Safety Management 2 Cr.

Controlling loss associated with motor fleet operations: selection, training and supervision of commercial drivers; regulatory controls. W

140-590 Product/Service Liability 2 Cr.

An analysis of products liability losses, laws and controls. W

Industrial Management

150-X49 Cooperative Education Experience 3-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2," "3," or "4." Prerequisite: consent of instructor or department chairman. F-W-S

150-X97 Field Experience 1 Cr. F-W-S**150-X98 Field Experience 1-2 Cr.**

Off-campus work and study in an approved position to better understand business and industrial concepts and practices. F-W-S

150-150 Industrial Organization 2 Cr.

Basic functions and interrelationships of major subdivisions of industrial organizations. Prerequisite: Industrial Technology major or consent of instructor. F-W

150-199 Independent Study 1-3 Cr. F-W-S**150-200 Production/Operations Management 3 Cr.**

A broad analytical "systems" viewpoint is used to develop competency in management decision-making and problem solving in an operations setting. F-W-S

150-220 Quality Systems-Service Industries 3 Cr.

Method, procedures and administration of quality technologies for business and service industries. Analysis, documentation of standards and applied research.

150-299 Independent Study 1-3 Cr. F-W-S

150-304 Principles of Management 3 Cr.

Basic managerial functions: planning, organizing, staffing, directing and controlling; management principles with universal applications; nature of authority and responsibility, departmentation, line and staff relations; enterprise manager in his social setting, comparative management; and management and the future. F-W-S

150-399 Independent Study 1-3 Cr. F-W-S

150-450 Maintenance Management 2 Cr.

Organization and management of facilities management system: administration of maintenance forces, maintenance of personnel, planning and scheduling of work, maintenance of basic environmental systems, project control and cost control for maintenance operations. F-W-S

150-489 Business and Industrial Internship 1-8 Cr.

Off-campus work and study in student's area of concentration; approved salaried position with cooperating company for a semester or summer session. Prerequisite: consent of department. F-W-S

150-499 Independent Study 1-3 Cr. F-W-S

150-500 Engineering Economy 2-3 Cr.

Source and application of funds: cost control, valuation, depreciation, replacement theory and taxation. Prerequisite: 150-200. F-W-S

150-501 Seminar 1-2 Cr.

(Title will reflect specific business or management content.) Current topics in business and industrial management to meet specific needs of students enrolled. F-W

150-502 Time Management 1 Cr.

Elements of time management, strategies and techniques in industrial and business environments. Analysis of time use by all levels of management.

150-505 Product and Inventory Control 3 Cr.

Principles and techniques of minimizing cost of ordering, receiving, storing, issuing, scheduling, routing, dispatching, expediting, and controlling material, parts, sub-assemblies, and final assemblies of a manufacturing system. Prerequisite: 150-200 or 354-130 or 354-530. F-W

150-510 Production Processing 3 Cr.

Production processes, especially product design as related to economic production; factors that influence choice and sequence of process to obtain end product. Prerequisite: 150-200. F-W

150-514 Industrial Enterprise Practicum 3 Cr.

Organization and operation of an industrial company; election, designing, production planning, production, marketing and distribution of a product. Prerequisite: 150-115 or 150-150. F-W-S

150-520 Quality Assurance 3 Cr.

Practical and statistical quality control in design and use of quality assurance programs: quality engineering, manufacturing quality assurance and product quality assurance. Prerequisites: 150-200, 354-130 or 354-530. F-W-S

150-525 Quality Management 3 Cr.

Provides the managerial and technical knowledge necessary to prepare, document, manage, and evaluate quality systems from beginning design through system operation and post-delivery customer services within a product or service environment. Prerequisites: 150-220 and 150-520. F-W-S

150-530 Material Handling 3 Cr.

Principles of material handling; handling function, its role in production activities and problems of handling materials in industrial settings. Prerequisite: 150-200. F-W

150-540 Time and Motion Study 3 Cr.

Methods engineering in business and industry: improving methods of performing and measuring work done by individuals or groups through motion analysis, charting techniques and principles of motion economy. Prerequisite: 150-200. F-W-S

150-550 Plant Layout 3 Cr.

Principles and methods of solving plant layout and material handling problems. Prerequisite: 150-200. F-W

150-570 Estimating and Analyzing Construction Costs 3 Cr.

Estimating and analyzing material, man-hours, equipment, methods of construction, overhead and profit and submitting these factors in the form of a bid. Prerequisites: 150-X98. F-W

150-599 Independent Study 1-3 Cr. F-W-S

150-600 Organizational Leadership 3 Cr.

Supervisor's role in attaining organizational objectives through human resources management; supervisory skills of communication, motivation, initiation of change, discipline, delegation and grievance handling developed on basis of organizational and individual behavior concepts. Prerequisite: senior or graduate standing. F-W-S

150-601 Management Consulting 2 Cr.

The organization and analysis of major elements of the consulting profession in management: 1. subject matter expertise, 2. marketing, 3. organizational development, 4. business principles for consultants and 5. communication skills; synthesis of the interdependent relationship of the major elements in the consultation process. F-W

150-605 Production and Inventory Control Practicum 2 Cr.

Application of principles and techniques learned in 150-505 as part of Professional Semester/Manufacturing Laboratory. Prerequisite: 150-505.

150-620 Quality Assurance - Practicum 2 Cr.

Application of principles and techniques learned in 150-520, as part of Professional Semester/Manufacturing Laboratory. Prerequisite: 150-520.

150-630 Quality Circles 2 Cr.

Background and history of participative management in Japan and America, orientation as to the structure and sequential development of quality circles, industrial quality control data gathering techniques, problem solving methods, organizational politics, and meeting management methods simulated and analyzed. S

150-640 Time and Motion Study Practicum 2 Cr.

Application of principles and techniques learned in 150-540, as part of Professional Semester/Manufacturing Laboratory. Prerequisite: 150-540.

150-650 Introduction to Operations Research 4 Cr.

Business and industrial applications of operations research techniques using linear programming, decision models and Monte Carlo methods; problem applications in allocation, sequencing, waiting lines and competitive strategies. Prerequisite: 150-200. W

150-660 Industrial Management 2 Cr.

Principles and methods of analyzing and solving industrial problems; application through case studies, management games and special problems. S

150-670 Systems Approach to Construction Management 3 Cr.

Total concept of construction industry: contracting, financing, bidding, planning, organizing, coordinating, and controlling functions and techniques. Prerequisite: 150-570. F-W

150-680 Production Management Practicum 2 Cr.

Application of principles and techniques of analyzing and solving production management problems learned in prior course work to manufacturing project in manufacturing laboratory. F-W

150-699 Independent Study 1-3 Cr. F-W-S

Business Administration

160-X49 Cooperative Education Experience 3-8 Cr.

Work and study in an approved position to gain business/ industrial/ other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2," "3," or "4." F-W-S

160-X97 Field Experience 1 Cr. F-W-S

160-X98 Business Administration Field Experience 1-2 Cr.

Off-campus work and study in an approved position to better understand the challenges of being an effective manager. F-W-S

160-100 Introduction to Business Administration 1 Cr.

Basic business systems processes, their interrelationships and role of business environment. Business Administration Program: advisement, course sequence and job opportunities. Prerequisite: consent of instructor or Business Administration major. F-W

160-115 Understanding Business 2 Cr.

Concepts, functions, and interrelationships of various subdivisions of service and production organizations. F-W

160-199 Independent Study 1-3 Cr. F-W-S

160-200 Financial-Managerial Accounting-Industrial Technology 3 Cr.

Survey of financial accounting concepts for a sole proprietorship, partnership and corporation. Coverage of some managerial accounting concepts such as budgeting and financial statements analysis. (Designed for Industrial Technology majors only.) F-W-S

160-206 Introduction to Financial Accounting 3 Cr.

Theory of debit and credit, principles of accounting records, modern business papers, working sheets, balance sheets and income statements, sole proprietorships and partnerships. F-W-S

160-207 Corporate and Managerial Accounting 3 Cr.

Development of basic accounting theory from 160-206: partnership and corporate forms of organization; branch and manufacturing accounting; cost accounting, budgeting and analysis and interpretation of financial statements. Prerequisite: 160-206. F-W-S

160-235 Small Business Management 3 Cr.

Introduction to the various aspects of business management, especially at the level of small business. F-W

160-260 Introduction to International Business 3 Cr.

Introduction to the interaction of foreign business, politics, culture, societies on basic international business systems. Basic terminology of International Business is of primary importance. Prerequisite: sophomore standing F-W-S

160-299 Independent Study 1-3 Cr. F-W-S

160-310 Special Topics-Management Information Systems 2 Cr.

Improving the practice of management through the utilization of computer software management information systems. An information system aids management in making, carrying and controlling decisions. Repeatable for credit. F-W-S

160-312 Cost Accounting 3 Cr.

Emphasis on concepts and techniques of cost analysis. Application of cost information and discussion of techniques and budgeting. Prerequisite: 160-206. F-W-S

160-318 Business Law I 3 Cr.

Introduction to law, contracts, agency nature and types of negotiable instruments. F-W-S

160-319 Business Law II 3 Cr.

A continuation of Business Law I; includes security devices, insurance, agency, employment, partnerships, corporations, real property, estates and bankruptcy, government and business; a study of the effect of the Uniform Commercial Code on the above-mentioned areas of business law. Prerequisite: 160-318.

160-320 Income Tax Accounting 3 Cr.

Principles for determining taxable net income; computation of federal and state income taxes for individuals, partnerships and corporations. Prerequisite: 160-206. F

160-330 Principles of Marketing 3 Cr.

Retail, wholesale, advertising, channels of distribution, cooperative marketing, pricing, marketing research and marketing legislation from consumer's, middleman's and manufacturer's standpoint. F-W-S

160-334 Salesmanship and Sales Management 3 Cr.

Concepts of selling: locating prospects, securing and conducting sales presentations, analyzing and handling different types of customers, closing sale, maintaining goodwill. Sales organizations: recruitment, selection, training compensation and cost control methods. Prerequisite: 160-330. F-W-S

160-335 Accounting for Management Decisions 3 Cr.

Interpretation of financial statements, internal control, budgeting, costing of products manufactured and sold, analysis of cost-volume-profit decisions. Data presented without mechanical techniques. Prerequisite: 160-207. F-W

160-336 Industrial Marketing Management 3 Cr.

Examination of the industrial marketing place with emphasis on unique characteristics of the industrial marketing environment. Special emphasis on case study analysis and discussion. Prerequisite: 160-330. W

160-337 Purchasing 3 Cr.

Exploration of decision making process used in purchasing goods and services; procurement process, paper flow, economics of purchasing and legal aspects. Prerequisites: 150-200 and 160-330. F-W-S

160-340 Business Finance 3 Cr.

Principles of planning, raising and controlling short- and long-term funds for large or small corporate or non-corporate business enterprises; financial aspects of promotion and organization, sources of financing and administration of income; failure and reorganization. Prerequisite: 160-207. F-W-S

160-355 Principles of Risk Management 3 Cr.

An overview of the role of management of risks in business with emphasis on identification of risks and evaluation to determine methods of handling them. We will consider all methods with emphasis on insurance. Prerequisite: junior standing. W

160-365 Principles of Real Estate 2 Cr.

Real estate law, importance of real estate, nature of real property, interests in real estate, historical background, estates, how created, types of ownership, descriptions, real estate contracts, transfer of title, title records, lease and zoning. W

160-370 Principles of Advertising 3 Cr.

Psychological, social and economic aspects of advertising in relationship to other aspects of distribution and its place in modern business. Prerequisite: 160-330. F-W-S

160-399 Independent Study 1-3 Cr. F-W-S

160-410 Manufacturing Cost Analysis 3 Cr.

Emphasis on concepts and techniques of cost analysis. Application of cost information and discussion of techniques and budgeting for a manufacturer. Prerequisite: 160-206 or 160-400. F-W-S

160-438 Industrial Distribution 3 Cr.

Industrial distribution channels and strategies involved in determining specific channel objectives; channel structure; procedures regarding physical distribution of goods through selected channels; control and evaluation of the adopted channels. Prerequisite: 160-336. F-W

160-461 Business Practicum/Management 3 Cr.

Approved management position in Campus Industries to better understand how major elements of management function and interrelate.

160-489 Business and Industrial Internship 1-8 Cr.

Off-campus work and study in student's area of concentration; approved salaried position with cooperating company for a semester or summer session. Prerequisite: consent of department. F-W-S

160-499 Independent Study 1-3 Cr. F-W-S**160-520 Seminar 1-3 Cr.**

Current topics in business. (Title will reflect specific business content).

160-535 Entrepreneurship: Small Business Planning 3 Cr.

An examination of the concepts, strategies and applications involved in entrepreneurship. Topics include a profile of entrepreneurs along with the risks and rewards, creating products and services for the marketplace, going into business—start-up, buy out or franchise—legal and financial aspects. Preparing a business plan is required of each student. F-W-S

160-538 International Logistics 3 Cr.

International logistics strategy: customer service, inventory, transportation, packaging, warehousing, storage, exporting, licensure, joint ventures, ownership documentation, terms of trading, organization, financial and management skills. Prerequisite: 160-438. W

160-540 International Business Finance 3 Cr.

Applications of concepts of business finance in international setting. Financing of international transactions and multinational corporations. Management of international working capital, financial and tax systems. Prerequisite: 160-340. W

160-573 Legal Aspects of Construction 3 Cr.

Analysis of contracts and documents used in building construction industry: rights of the parties. Labor relations: law and labor, legality of strikes, legality of picketing and boycott as economic pressure, unfair labor practices, employer and union, rights and responsibilities of supervisor and worker. F

160-585 International Marketing 3 Cr.

Principles and policies of marketing goods and services in international markets. Concepts, strategies and policies of world trade and multinational firms. Prerequisite: 160-330. F-W

160-588 International Business Practicum 3 Cr.

Assist an actual business in developing their international marketing plan. Students, under the supervision of a faculty member, determine a product's foreign marketability. Prerequisite: 160-585. W

160-599 Independent Study 1-3 Cr. F-W-S**160-601 Legal Environment of Business 2 Cr.**

Changing relationship of government and industry: regulatory legislation, administrative agencies, national policies and social control. F-W-S

160-638 Industrial Distribution Seminar 2 Cr.

Culminating and synthesizing experiences in industrial distribution. Individual topics will vary from semester to semester reflecting the latest changes in the field. Special course fee. Prerequisite: 160-438. W

160-679 Marketing Research 3 Cr.

Experimental and survey techniques to secure information for successful marketing; primary and secondary sources; data collection, compilation and analysis methods; effective communication of conclusions and recommendations to management. Prerequisites: 160-330 and 320-325. F

160-690 Administrative and Business Policies 3 Cr.

Integrates previous business studies, develops ability to solve business problems through scientific approach to decision-making. Business cases on policy formulation and administration: manufacturing, marketing, finance, accounting, personnel and public relations functions. Prerequisites: 160-330 and 160-340; 320-210 or 320-201. F-W

160-699 Independent Study 1-3 Cr. F-W-S**Materials and Processes****170-X49 Cooperative Education Experience 3-8 Cr.**

Work and study in an approved position to gain business/ industrial/ other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2," "3," or "4." Prerequisite: consent of department chairperson. F-W-S

170-X97 Field Experience 1 Cr. F-W-S**170-X98 Field Experience 1-2 Cr. F-W-S****170-102 Manufacturing Materials and Processes I 3 Cr.**

Material properties (metals, plastics, elastomers, wood and composites). Experiences in machining and forming processes such as turning, milling, shearing, drawing, electrical discharge machining, injection molding, extrusion, thermoforming, laminating, reaction injection molding. New developments and trends in materials and processing. Special course fee. F-W

170-103 Manufacturing Materials and Processes II 3 Cr.

Common materials used to manufacture products; experiences related to producing metal products by welding, forging, casting and powdered metal molding; application of finishing materials; molding products from ceramic materials; and fastening with adhesives and mechanical fasteners. New developments and trends in materials and processing. Prerequisite: 170-102. F-W

170-105 Basic Robotic and Automated Systems Application 3 Cr.

Introduction to broad applications of robotic and automated systems including historical developments. Recent innovative uses of robots, vision systems, processing automation, programmable controllers, and computer numerical controlled devices. Tailored to students seeking a broad introduction to automated systems rather than a specialized in-depth technical approach. Will not serve as a prerequisite for 170-505 Robotics.

170-199 Independent Study 1-3 Cr. F-W-S**170-205 Design for Industry 3 Cr.**

Industrial research and development experiences focusing on problems related to product development, innovation and problem solving, manual, semi-automatic and automatic production processes. Development and application of various systems for selection of materials and processing will be studied. Prerequisite: 170-101. F-W

170-209 General Finishing 2 Cr.

Technical information and application of finishes to various materials. Color theory, spraying, baking, drying, polishing, spot finishing and re-finishing. Prerequisite: 170-101 or 170-202.

170-222 Industrial Ceramics 3 Cr.

Glasses, construction materials, abrasives, whitewares, refractories, enamels, electronic and nuclear products. Lab work to correlate applications, material properties and production methods. Prerequisite: 311-115 or 311-135. F

170-230 Metal Machining Technology 3 Cr.

Basic machine tool concepts providing an operational knowledge of the lathe, milling machine, grinder, drill press and electrical discharge machine (EDM). Introduction to precision measurement techniques and instruments. Prerequisite: 170-101 or 170-202. F-W

170-241 Machine Woodworking 2 Cr.

Wood industry materials and equipment; job planning, organizing and preparation; principles of wood and allied material processing. Prerequisite: 170-101.

170-250 Plastics I 2 Cr.

Plastics industry materials and processes; characteristics and properties of thermoplastic and thermosetting materials and processing equipment. Prerequisite: 170-101 or 170-202. F-W

170-270 Light Building Construction 2 Cr.

Residential and small commercial structure construction: terminology, materials, tools and equipment. Prerequisite: 170-101 or 170-202. F-W

170-275 Construction Materials 2 Cr.

A study of the origin, composition and basic nature of primary materials of construction (woods, metals, plastics, brick, tile, rock, stone, cement and glass). Secondly, the selection, specifying and recommended application procedures of materials with respect to standards and codes. F-W

170-280 Packaging Fundamentals 2 Cr.

Relationship to marketing and consumer behavior, control through legal and industrial regulations, function within larger organization, roles of professional engineer, packages and their function. F-W

170-299 Independent Study 1-3 Cr. F-W-S**170-301 Technology, Resources, Environment 2 Cr.**

Relationship between rate of resource use and environmental degradation; possible consequences of present resource consumption patterns; pursuit of ecologically sound resource consumption patterns more appropriate to presently known available resources. F-W

170-313 Wood and Wood Fiber Composite Materials 3 Cr.

Wood structure, classification, composition, extractives, properties, testing, stabilization, bonding, preservation, wood/plastic composites, paper and other modified wood fiber materials. Prerequisite: 170-102. F-W

170-315 Packaging Materials 3 Cr.

Origin, composition, properties and application of packaging materials; lab work in packaging and materials testing methods. Prerequisite: 170-280. F-W

170-320 Production Sheet Metal 3 Cr.

Forming characteristics of various metal sheets. Conventional and high technology cutting, bending, forming, and joining processes and equipment. Prerequisite: 170-102.

170-321 Production Finishing Systems 3 Cr.

Selection and management of production finishing systems for manufactured goods. Paint types, properties, methods of application and testing procedures. Systems for applying metallic coatings and other non-organic finishes. Prerequisite: 170-103.

170-331 Machine Shop II 2 Cr.

Advanced shop practice; sharpening of lathe tools, twist drills, milling cutters, taper turning, grinding externally and on flat surfaces. Gear cutting on milling machine. Heat treating and layout techniques. Prerequisite: 170-230. F-W

170-344 Cabinet Work 2 Cr.

Problem solving, materials testing and advanced technical information; major cabinetmaking project. Prerequisite: 170-241. F-W

170-357 Metal Casting Processes 3 Cr.

Development of selected metal casting processes through design, pattern construction and casting. Select casting processes for production applications. The role of computers and robots as tools of the casting industry. Visual and metallurgical analysis of castings. Prerequisite: 170-103 or consent of instructor. F-W

170-365 Production Welding Technology 3 Cr.

Fundamental concepts of welding and cutting processes. Set-up and/or operational knowledge of common welding and cutting processes. Metallurgical effects of welding on metals and tests for welds. Operational knowledge of robots in welding, welding codes and symbols. Prerequisite: 170-103 or consent of instructor. F-W

170-370 Commercial Building 2 Cr.

Structural building systems and related mechanical installations. Prerequisite: 170-270. F-W

170-372 Heating and Air Conditioning 3 Cr.

Heating, heat energy, heating systems, calculation of heating loads, heating drawings, burners and control systems. F-W

170-373 Concrete Technology 3 Cr.

The principles of cement and concrete (ingredients, mixing, placement, finishing, curing, properties and applications). Prerequisite: 170-270. F-W

170-380 Consumer Packaging Systems 3 Cr.

The study of packaging from the design concept through production. Lab work on structural design, sample making and machine operation. Discussions on standard packages and their applications. Prerequisite: 170-280. F-W

170-381 Distribution Packaging 3 Cr.

Packaging systems to support the distribution functions. Topics will include shipping containers, palletizing, unitizing, barrier problems, marking and coding for shipment, freight regulations, military specifications and hazardous materials regulations. Prerequisites: 170-280, 170-315 and 170-380. F-W

170-385 Packaging Machinery 3 Cr.

Equipment that measures, forms, fills, seals, cartons, cases, uncases and labels; functional capabilities of speed, material characteristics, carton size and operating characteristics. F-W

170-398E Field Experience 1 Cr. F-W-S**170-399 Independent Study 1-3 Cr. F-W-S****170-480 Packaging Design and Evaluation 3 Cr.**

Chemical and physical protection problems; materials, structure, graphics and regulations in package design; shock and vibration forces in package evaluation; practical applications of evaluation using electronic instrumentation. Prerequisite: 170-380. F-W

170-489 Business and Industrial Internship 1-8 Cr.

Off-campus work and study in student's area of concentration; approved salaried position with cooperating company for a semester or summer session. Prerequisite: consent of department. F-W

170-498E Field Experience 1 Cr. F-W-S**170-499 Independent Study 1-3 Cr. F-W-S****170-502 Engineering Data Bases for Manufacturing 3 Cr.**

Classification and coding, and formation of a group technology system. Modification of existing software for Computer Aided Process Planning to serve specific needs. Information storage and retrieval systems. Development of Computer Integrated Manufacturing data bases. Technical and human factors affecting workers. Prerequisite: 170-504 or 150-510 or consent of instructor.

170-504 Computer Aided Manufacturing 3 Cr.

Justification for and application of computer assistance in manufacturing process; machine process control, inventory and materials handling, robotics and automated assembly, product design and part grouping in relation to total manufacturing operation. Special course fee. Prerequisites: 170-101, 170-202 and 354-141. F-W

170-505 Robotics 2 Cr.

Capabilities of and justification for industrial robots; lab work with robots and simulators in processing, assembly and materials handling. Special course fee. Prerequisites: 170-101 or 170-202 and 170-504 and 354-141. F-W

170-506 Maintenance of Processing Equipment 3 Cr.

Recondition, identify and correct common malfunctions of hand and power woodworking and metalworking equipment; manufacturers' performance specifications, cutting tool specifications and preventive maintenance schedules; selection of hand tools, power equipment, measuring instruments and safety devices. F-W

170-508 Industrial Metrology 3 Cr.

Measurement of heat, moisture, speed, fluid flow, material properties, and angular and linear dimensions for parts production and process control. Theory and application with major emphasis on dimensional metrology. Introduction to statistical process control and non-destructive testing. Prerequisites: 170-102, junior standing or consent of instructor. W

170-510 Manufacturing Systems 3 Cr.

Dedicated, flexible, and standard manufacturing systems. Selection and application of standard production components and tooling to produce and evaluate a given product. Emphasis on integrated inspection, part transfer, production, and robot application. Special course fee. Prerequisite: 170-504. F-W

170-511 Production and Transfer Tooling 3 Cr.

Tooling for machining, locating, and transferring multiple parts for fixed and flexible manufacturing. Set-up and development of tooling for robots, Computer Numerical Control (CNC) machines and other production equipment. Transfer line tooling. Prerequisite: 170-504. F-W-S

170-513 Manufacturing Processes: Wood Products 3 Cr.

Primary and secondary manufacturing processes including machining theory, computerized planning systems, Numerical Control (NC) machining applications, optically controlled laser engraving/cutting, product development and production systems. Prerequisite: 170-313.

170-515 Metallurgy 3 Cr.

Properties of crystalline solids, production of iron and steel, the carbon-iron equilibrium diagram, principles of heat treatment, properties of ferrous alloys. Production, properties, and theory of the most important non-ferrous metals and alloys. Prerequisite: 311-115. F-W

170-537 Numerical Control in Manufacturing 1-3 Cr.

Investigation and justification of numerical control of machine tools; types of control units and systems, feedback systems, manuscript writing and manual programming, tape punching and machine set up, fixture design and tool setting; working knowledge of basic machining processes recommended. Special course fee. Prerequisite: 170-101 or 170-202. F-W

170-540 Design and Simulation of Manufacturing Cells 3 Cr.

Applied manufacturing system design and evaluation. Group technology approach. Computer assisted coding and classification. Development of part families. Efficient design of manufacturing cells. Evaluation of manufacturing system designs using simulation and other techniques. Basic statistics and computer programming abilities desirable. Special course fee. Prerequisite: 170-504. F-W

170-565 Welding II 2 Cr.

Advanced work in arc and oxy-acetylene welding techniques; vertical, horizontal, overhead positions; destructive and non-destructive testing; MIG and TIG welding processes; oxy-acetylene machine and air carbon arc cutting. Prerequisite: 170-365. W

170-570 Mechanical Systems 2 Cr.

Plumbing and electrical requirements for residential and commercial buildings. Prerequisite: 170-370.

170-575 Building Construction Practicum 2-4 Cr.

Technical information, construction problems and actual development of light residential structure. Prerequisite: 170-270. S

170-580 Packaging Development 3 Cr.

Applications of packaging functions: developing a product's complete packaging system, from final production of product to consumer. Prerequisite: 170-480. F-W

170-585 Packaging Seminar 2 Cr.

Current packaging problems or developments (subject based on students' interests and current issues). Prerequisite: junior or senior standing in Packaging. F-W

170-595 Seminar 1-2 Cr.

(Title will reflect specific materials and processes content.) Designed to upgrade effectiveness of teachers on secondary school materials and processes content.

170-599 Independent Study 1-3 Cr. F-W-S**170-620 Research and Development 2 Cr.**

Research and development procedures applied to specific industrial material and processing problems. Prerequisite: senior or graduate status. F-W

170-621 Research and Development Laboratory 1 Cr.

This lab is taken in conjunction with 170-620 to allow students in technical majors to fulfill the requirements of the major research and development project. Prerequisite: senior or graduate status. To be taken concurrently with 170-620. F-W

170-699 Independent Study 1-3 Cr. F-W-S

Industrial Teacher Education

190-X49 Cooperative Education Experience 3-8 Cr.

Work and study in an approved position to gain business/ industrial/ other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2," "3," or "4." Prerequisite: consent of department chairperson. F-W-S

190-X97 Field Experience 1 Cr. F-W-S**190-X98 Field Experience 1-2 Cr. F-W-S****190-160 Introduction to Technology Education 2 Cr.**

An introduction to current programs, facilities and opportunities in teaching technology education. Students develop personal goals, complete program plan sheets, visit schools and work as teacher aides. Special course fee. F-W

190-199 Independent Study 1-3 Cr. F-W-S**190-205 Teaching Methods Technology/Vocational Education 2 Cr.**

Study of teaching methods in use in technology/vocational education classes and laboratories. Instruction planning; lesson presentation with videotape equipment; methods of organization and management; instruction aids; professional ethics. Prerequisite: 190-160. F-W-S

190-299 Independent Study 1-3 Cr. F-W-S

190-390 Lab/Class Management in Technology Education 2 Cr. An overview of principles of facility planning and equipment selection for a variety of curriculum needs. Laboratory and classroom management techniques will be presented with an emphasis on safety requirements and managing various delivery systems used in contemporary programs. Prerequisite: 190-160. F-W-S

190-398E Field Experience 1 Cr. F-W-S**190-399 Independent Study 1-3 Cr. F-W-S****190-403 Student Teaching Elementary Technology Education 2 Cr.**

Directed teaching at the elementary level in selected off-campus schools. Prerequisites: 190-160, 190-205, 190-405 and 190-406.

190-405 Curriculum Technology/Vocational Education 2 Cr.

Study of curriculum terminology and methods of selecting and organizing content for technology/vocational education courses. A course of study and individualized instruction will be developed by the student for use in teaching a class in technology education or vocational education. Special course fee. Prerequisites: 190-160 and 190-205. F-W-S

190-406 Evaluation in Technology/Vocational Education 2 Cr.

For technology education and vocational/technical teachers in evaluating program and student performance: basis for student assessment, evaluation of manipulative activity and construction of teacher-made tests as applied to all students (including those with special needs). Student evaluation of instructor and instruction. Prerequisites: 190-205 and 190-404. F-W-S

190-407 Student Teaching in Technology Education 5 Cr.

Directed teaching and community experiences in selected off-campus schools. Prerequisite: Must hold teaching certificate in an area other than Industrial Education.

190-408 Student Teaching Technology/Vocational Education 8 Cr.

Directed teaching and community experiences in selected off-campus schools. Prerequisites: 190-406 and overall grade point average of 2.5.

190-409 Student Teaching 16 Cr.

Directed teaching and community experiences in selected off-campus schools. Prerequisites: 190-160, 190-205, 190-405, 190-406, Satisfactory Health and Speech, English, and grade point average. F-W-S

190-488 Internship Teaching 8 Cr.

An alternate method of obtaining student teaching experience. Teacher interns receive a license to teach and salaried appointments in cooperating school systems for one full semester. Prerequisite: 190-404. F-W

190-498E Field Experience 1 Cr. F-W-S**190-499 Independent Study 1-3 Cr. F-W-S****190-520 Seminar 1-3 Cr.**

Current topics in industrial/technology education. Prerequisite: consent of instructor.

190-530 Implementing Technology Education 3 Cr.

Converts the theory of contemporary Technology Education programs into instructional materials, facilities, and strategy suited to the secondary and post-secondary school. F-W-S

190-540 Middle School Technology Education 1 Cr.

Reviews trends and activities in the technology education movement. To update instructors to teach middle school offerings. F-W-S

190-570 Elements of Instruction 1-2 Cr.

Techniques in the Madeline Hunter method of researched topics of instruction. Teaching to an objective, selecting objectives at the correct level of difficulty, monitor and adjust, and principles of learning including motivation, retention, transfer, set, active participation, reinforcement and closure. F-W-S

190-575 Workshop 1-3 Cr.

Current specialized topics in industrial education through experiential activities.

190-599 Independent Study 1-3 Cr. F-W-S**190-606 Activities in Technology/Vocational Education 2 Cr.**

A study and design of learning activities for technology and vocational education. Learning activities will be developed on selected levels of the cognitive, psychomotor, and affective domains to carry out stated behavioral objectives. An evaluation of the appropriateness of learning activities as presented in contemporary curriculum projects.

190-631 Field Trips to Industry 1-3 Cr.

Opportunities are provided for industrial and vocational education majors as well as teachers to accumulate information about industries through local and distant on-site visits to industries. A third credit may be earned by showing evidence of application of data collected in courses being taught.

190-637 Organization/Management of Technical Laboratories 2 Cr.

Experience in administration, project development and teaching problems associated with industrial education. Prerequisite: 190-205. S

190-638 Course Construction 2 Cr.

Directed experience in curriculum development and course of study construction for technology/vocational education teachers; development of behavioral objectives and of instructional materials to help reach these objectives; development of course of study, instructional package and/or unit of instruction. W-S

190-600 Independent Study 1-3 Cr. F-W-S**Technology Education****195-X97 Field Experience 1 Cr. F-W-S****195-X98 Field Experience 1-2 Cr. F-W-S****195-199 Independent Study 1-3 Cr. F-W-S****195-299 Independent Study 1-3 Cr. F-W-S****195-399 Independent Study 1-3 Cr. F-W-S****195-499 Independent Study 1-3 Cr. F-W-S****195-520 Technological Advances – Fast Forward I 2 Cr.**

Outlines industry's rapid advancements in high technology as utilized in the world today. Reference is made to a variety of applications of this technology now and in the future. F-S

195-521 Technological Advances – Fast Forward II 2 Cr.

Current applications of technology in today's society. Discusses how technological advances have affected educators through simulation, society through technological changes such as storing information, television communication and other new technological advances. W-S

195-530 Understanding Technology 3 Cr.

Aspects of technology: definitions, present characteristics, history, forecasting, transfer, assessment, impact and systems. F-W-S

195-532 Futures of Technology 2 Cr.

Concepts of future studies as applied to technology. Exploration of possible alternatives. Techniques and skills for the professional user and the citizen consumer. F-W

195-540 Future of Work 1-2 Cr.

Future possibilities as to why people work, who will work, and in what conditions. Project probable work parameters from current trends. Relate past, present and future to students' individual work situations.

195-599 Independent Study 1-3 Cr. F-W-S**195-699 Independent Study 1-3 Cr. F-W-S****Marketing Education****196-199 Independent Study 1-3 Cr. F-W-S****196-201 Introduction to Marketing Education 3 Cr.**

The field of marketing education; historical development, role in vocational education, career opportunities, certification requirements, and current trends. F-W

196-202 Supervision of Distributive Education Clubs 3 Cr.

Organization of a DECA chapter, the administration of activities, and the design of competitive events, including "Program of Work" development, school and model store organization, and integration of DECA into the curriculum. Prerequisite: 196-201. F

196-299 Independent Study 1-3 Cr. F-W-S**196-301 Marketing Education Methods 4 Cr.**

Methods and materials of marketing education: projects, individualized instruction, programmed instruction, demonstration, instructional resource materials, and laboratory equipment. Prerequisite: 196-201. F

196-399 Independent Study 1-3 Cr. F-W-S**196-401 Marketing Education Curriculum 3 Cr.**

Developing distributive education curriculum for secondary and post-secondary programs. Prerequisite: 196-301. F

196-408 Student Teaching – Distributive Education 8 Cr.
Directed teaching and community experiences in selected off-campus schools (quarter). Prerequisites: 416-201, 416-301, 416-401 and 469-560. S

196-409 Marketing Education – Student Teaching 16 Cr.
Directed teaching and community experiences in selected off-campus schools. Prerequisites: 196-201, 196-202, 196-301, 196-401, 196-501, senior standing - cumulative grade point average of 2.75; consent of instructor. Satisfactory health, speech, and English; passing score on PPST test. W

196-499 Independent Study 1-3 Cr. F-W-S

196-501 Marketing Education Project Method 3 Cr.
Designed to develop methods, techniques, questions, activities and resources that center around teaching marketing education via the project method or model store simulation. Prerequisite: 196-201. F

196-555 Marketing Education Seminar 2-3 Cr.
Designed to update marketing education undergraduates and graduates (teacher-coordinators) on work experience, new curriculum, student organization competencies, coordination techniques, special needs, and marketing education related projects. Will be used to inservice high school teacher-coordinators and VTAE marketing teachers.

196-599 Independent Study 1-3 Cr. F-W-S

196-699 Independent Study 1-3 Cr. F-W-S

Training and Human Resource Development

198-199 Independent Study 1-3 Cr. F-W-S

198-299 Independent Study 1-3 Cr. F-W-S

198-399 Independent Study 1-3 Cr. F-W-S

198-499 Independent Study 1-3 Cr. F-W-S

198-550 Introduction to Industrial Training 2 Cr.
Philosophy, career opportunities, status of training programs, curriculum and program development, methods and evaluation, overview of facilities. Special course fee. F-W-S

198-560 Training Systems in Business and Industry 3 Cr.
Types and purpose of training as related to business and industry. Training analysis, content, delivery systems, evaluation and justification for training. Designed for non-education majors. Special course fee. S

198-570 Training Methods in Business and Industry 2 Cr.
Identification of training situations where the development and delivery of training is needed. Emphasis is on methods to deliver a training session. Students will be required to make training session presentations. F-W-S

198-589 Training Internship 2-8 Cr.
Opportunities for students to learn and practice training management and instructional techniques through activities and experiences in a training department. Objectives commensurate with student's background and field of training. Activities include designing and implementing training programs in student's major or minor field of study in either industry, business, military or government training programs. Prerequisites: 198-550 or 198-560, grade point average of 2.5, consent of specialization director. F-W

198-599 Independent Study 1-3 Cr. F-W-S

198-699 Independent Study 1-3 Cr. F-W-S

Vocational Education

199-488 Vocational, Technical and Adult Education Internship 1-8 Cr.
International students majoring in Vocational, Technical and Adult Education will participate in an internship located in both industrial/business and vocational/technical institutions to have experience in their technical specialty. Prerequisites: 190-205, 190-405, 190-406, 199-502 and 199-534. F-W-S

199-X97 Field Experience 1 Cr. F-W-S

199-X98 Field Experience 1-2 Cr. F-W-S

199-199 Independent Study 1-3 Cr. F-W-S

199-299 Independent Study 1-3 Cr. F-W-S

199-399 Independent Study 1-3 Cr. F-W-S

199-499 Independent Study 1-3 Cr. F-W-S

199-501 Preservice Workshop for Vocational Educators 1 Cr.
Introduction to the basic concepts of teaching courses in Wisconsin VTAE schools.

199-502 Principles of Vocational, Technical and Adult Education 2 Cr.
Philosophy, organization and administration of vocational, technical and adult education, nationwide, in Wisconsin and on the local level. Special course fee. F-W-S

199-534 Task Analysis 2 Cr.
Analysis techniques utilized in curriculum development. Emphasis on task analyses and related procedures. Includes occupational and needs analysis, competency identification, objective writing and information mapping. Integrates task analysis with a total system for developing and revising vocational curriculum or job training programs. F-S

199-537 Competency Based Education – Vocational/Industrial 2 Cr.
Competencies for VTAE programs and courses. Development of CBE performance indicators in all domains, a CBE management system, and basis for CBE evaluation. F-W

199-546 Seminar 1-3 Cr.
Current topics in vocational, technical and adult education with application for personnel in the field. F-W-S

199-559 Technology Impacts Occupational Programs 4 Cr.
Presentation of latest technology in communications, manufacturing, construction, and/or transportation which involve concepts from math, science and computer science. S

199-560 Cooperative Occupational Education Programs 2 Cr.
Philosophy, organization, coordination and teaching techniques of cooperative education programs in the various vocational areas. Roles, responsibilities and duties of the cooperative teacher coordinator. F-W-S

199-580 Computer Aided Instruction – Vocational, Technical and Adult Education 2 Cr.
Applications of the computer in managing vocational, technical and adult education classrooms and laboratories. Utilization of computers in course preparation, evaluation and methods of teaching. Use of existing software and the evaluation of it. Prerequisite: consent of instructor or computer literacy course.

199-585 Computer Applications in Vocational Education 2 Cr.
Presentation of the importance and general applications of computers in the area of vocational education. Prerequisite: computer literate, consent of instructor. F-W-S

199-590 Vocational Education: Economic Development Role 2 Cr.
The role of the Wisconsin VTAE system in response to rapidly changing technology and the economic climate in Wisconsin.

199-599 Independent Study 1-3 Cr. F-W-S

199-605 Methods of Teaching Vocational Education 2 Cr.
Competency-based and individualized approach to methods of teaching vocational education. F

199-638 Course Construction for Vocational Educators 2 Cr.
Competency-based and individualized approach to principles of course construction for vocational educators. F

199-640 Instructional Evaluation in Vocational Education 2 Cr.
Competency-based and individualized approach to instructional evaluation for vocational educators. F

199-674 Adult Education 2 Cr.
Philosophy and history of adult education in the United States. Techniques for teaching adults: psychological factors, methods, adult interests and characteristics. Special course fee.

Interdepartmental - Home Economics

200-295 Career Exploration in Home Economics 1 Cr.

Career expectations and developmental needs of individuals and organizations/institutions in home economics. F-W-S

200-325 Computer Applications in Home Economics 2 Cr.

Microcomputer applications in home economics. Analysis of appropriate databases. Evaluation of home economics software. Hardware selection criteria appropriate to home economics applications. Comparison of mainframe and microcomputer appropriate applications. Prediction of future applications. Repeatable for various subunits. Prerequisite: 300-101 or consent of instructor.

200-395 Issues in Home Economics 1-2 Cr.

Home economics issues encountered in pursuit of improved quality of life.

200-449 Cooperative Education Program in Home Economics 3-6 Cr.

Work and study in an approved business/industry position related to the student's major. Selection by application and interview. Prerequisite: consent of instructor or field experience. Repeatable for credit. F-W-S

200-499 Independent Study 1-3 Cr. F-W-S

Human Development and Family Living

212-100 Introduction to Early Childhood Programs 1 Cr.

History, types of programs and staff requirements in early childhood professions. F-W

212-101 Introduction to Child Development and Family Life 1 Cr.

Fields of child development and family relationships as an intrinsic part of home economics; occupational opportunities in programs serving families and children. F

212-115 Introduction to Home Economics in Business 1 Cr.

Introduction to Home Economics in Business with emphasis on history of field, professional development, and personal qualities needed in various positions. F

212-124 Child Development I 3 Cr.

Developmental study of the child from conception through adolescence; physical, intellectual, social and emotional growth; observation required. F-W

212-160 Children's Health and Safety 1-2 Cr.

Providing for young children's health and safety. F

212-163 Adult/Child Interaction 1-2 Cr.

Organizing and sustaining positive functioning of children and adults in learning environment. S

212-235 Child Development Laboratory 1 Cr.

Observation and/or participation in early childhood program. May be repeated for different experiences. Prerequisite: 212-124. Repeatable for credit. F-W-S

212-250 Individual and Family Relations 3 Cr.

Dynamics of social-psychological forces affecting family interaction. Explorations of courtship, husband-wife, parent-child relationships. F-W

212-251 Early Years of Marriage 1 Cr.

Presentation and evaluation of adjustments, goals and processes of the early years of marriage. F-W-S

212-264 Child Guidance 2-3 Cr.

Principles of child guidance; evaluation of literature and application of studies to children; observation of young children. F-W

212-265 Child Guidance Practicum 1 Cr.

Supervised participation in Child and Family Study Center or similar center: guidance techniques and understanding of children. Prerequisite: 212-264. F-W

212-274 Creative Activities for Young Children 2 Cr.

Curriculum, methods and materials for music, art and creative movement activities for young children. Prerequisite: 212-124 or 212-264. F-W

212-294 Teaching/Learning Strategies in Early Childhood 5 Cr.

Program management, classroom arrangement, guidance principles, sensory stimulation, enhancement of self and creative expression with young children. Prerequisites: 212-124 and 212-264. F-W

212-299 Independent Study 1-3 Cr. F-W-S

212-344 Science, Mathematics and Social Studies:

Early Childhood Education 4 Cr.

Directed study of application of skills for teaching mathematics and science concepts to young children: organization and presentation of teaching/learning experiences for children in early learning situations. Prerequisite: 212-204. F-W

212-350 Dynamics of Family Development 3 Cr.

A study of the family with emphasis on environmental factors significant in marriage and family relationships. Prerequisite: 212-250. F-W

212-351 Death and the Family 1 Cr.

Current literature concerning how families deal with the death of a member; how adults can help children cope with death in the family, how other family members deal with death of older and younger family members. F-W

212-352 Parenthood 1 Cr.

Presentation and evaluation of current knowledge about parenthood; effects of parenthood on parents. S

212-354 Skill Training for Individual/Family Interventions 3 Cr.

Concepts and skills in developing rapport, assessing goals and initiating change with children, parents, couples and families across the life span in professional settings. F-W

212-355 Lifespan Human Development 3 Cr.

Lifespan individual development. Critical examination of influences on individual development across the lifespan. F-W

212-357 Lifespan Sexuality 3 Cr.

Introduction to human sexuality over the lifespan utilizing an individual and family perspective. Focus is upon the development of sexual behavior, relationships, and gender characteristics from infancy to late life. F-W-S

212-380 The Family in Later Life 1 Cr.

Overview of theory and research on older couples and families along with issues and problems facing late-life families. Prerequisite: 212-250. W

212-401 Issues in Child Development and Family Life 1 Cr.

Issues related to profession in the areas of child development and family studies. Prerequisite: in Child Development and Family Life program. F

212-433 Language Arts/Reading - Early Childhood Education 3 Cr.

Current philosophies, methodology and materials for teaching reading: readiness activities and beginning reading in early childhood. Prerequisite: 212-333. F-W

212-451 Divorce 1 Cr.

Evaluation of divorce and trends as part of American family system. Prerequisite: 212-250. W

212-480A Student Teaching in Preschool Programs 4 Cr.

Directed teaching and community experience in selected early childhood centers. Prerequisite: 212-333. F-W-S

212-480B Student Teaching in Kindergarten 4 Cr.

Directed teaching and community experience in selected kindergartens. Prerequisite: 212-303. F-W

212-488 Intern Teaching 8 Cr.

An alternate method of obtaining student teaching experience. Teacher interns receive license to teach and salaried appointments in cooperating school systems for one full semester. Prerequisite: 212-333. F-W

212-490 Clinical Seminar in Preschool Programs .5 Cr.

Seminar concurrent with student teaching in Child and Family Study Center or other preschool program. F-W-S

212-491 Clinical Seminar in Kindergarten Education .5 Cr.

Seminar concurrent with student teaching in kindergarten. F-W

212-492 Student Teaching in Prekindergarten 8 Cr.

Full-day student teaching experience at the prekindergarten level in a preschool setting, together with weekly one-hour student teaching seminar session. The student teaching experience follows the calendar of the preschool. Prerequisites: 212-294, 212-344, 212-433, 212-685. F-W-S

212-493 Student Teaching in Kindergarten 8 Cr.

Full-day student teaching experience at the kindergarten level in a public school setting, together with a weekly one-hour student teaching seminar session. The student teaching experience follows the calendar of the public school district. Prerequisites: 212-294, 212-344, 212-433, 212-685. F-W

212-499 Independent Study 1-3 Cr. F-W-S**212-507 Parent Education/Involvement 2 Cr.**

Parent groups: training of leaders, survey of literature. Practicum with parent groups. Prerequisite: 212-264. F-W

212-520 Theories of Early Childhood Education 2 Cr.

Early childhood education: evolution, theories and principles of current programs, and development of individual philosophy. Prerequisite: 212-408A. F-W

212-524 Child Development II 3 Cr.

Empirical study of physical, intellectual, social and emotional development of children. Prerequisites: 212-124 and 212-264. W

212-530 Adulthood and the Family 3 Cr.

Study of adults in the family context during the early and middle years. Prerequisites: 212-124 and 212-324. W

212-535 Seminar On Self-Growth 2 Cr.

Theories of the self; exploration of aspects of self-development and actualization. Prerequisite: 212-350 or 212-524. F-W-S

212-545 Exceptional Needs and Programming - Early Childhood 3 Cr.

Program development and implementation for preschool mentally handicapped children. Prerequisite: consent of department. F-W

212-553 Dual Career Families 1 Cr.

The dual career marriage as a form of family life; benefits and problems encountered. F-W-S

212-554 The Single-Parent Family 1 Cr.

Description, statistical trends and problems of single-parent families. W

212-570 Singlehood 1 Cr.

Experiences of singles; singlehood as a phase in life cycle and as a lifestyle in contemporary society. Prerequisite: 212-250. F

212-585 Family Based Employee Assistance Programs 3 Cr.

Structures and functions of employee assistance programs with employees and their families being the primary unit of analysis and service. Prerequisite: permission by instructor and junior standing. F

212-590 Family Research and Methodology 3 Cr.

Analysis of family theory, research methodology, and selected topics in family relations. Prerequisites: 212-250 and 212-350. W

212-594 Infant-Toddler Programming 2 Cr.

Practical and theoretical issues relating to the development of programming for infants and toddlers, including infant-toddler development, curriculum development, working with parents, and program evaluation. Prerequisites: 212-124, 212-160 or consent of instructor. F-W-S

212-601 Child and Family Law 3 Cr.

Legal issues affecting children and families. Prerequisites: 212-250 and 212-350. W

212-605 Health Care Issues Facing Families 2 Cr.

A descriptive review of four health care issues facing the American family with special emphasis on the impacts of advanced technology in health care. W-S

212-607 Parent Counseling 2 Cr.

Approaches and techniques for working with parents; observation and experience in childrearing problems parents face. Prerequisites: 212-124 and 212-264. W

212-610 Family Impact Seminar 3 Cr.

Content, methods and process of assessing impact of public policy on children and families. Prerequisites: 212-250, 212-350 and 375-510. W

212-615 Family Stress, Coping and Adaptation 1 Cr.

Impact of family development and stress on individual and family well-being. Prerequisite: 212-250. S

212-624 Advanced Child Study 3 Cr.

A study of principles and review of literature pertaining to children. Prerequisites: 212-124 and 212-264. F-W-S

212-626 Special Topics in the Study of Family Life 1-3 Cr.

Family life programs and literature; individual study of problems of personal or professional interest. Prerequisite: 212-350. Repeatable for credit. F-W-S

212-626A Special Topics in the Study of Family Life 1-3 Cr.

Family life programs and literature; individual study of problems of personal or professional interest. Prerequisite: 212-350. Repeatable for credit. F-W-S

212-626B Special Topics in the Study of Family Life 1-3 Cr.

Family life programs and literature; individual study of problems of personal or professional interest. Prerequisite: 212-350. F-W-S

212-637 Seminar in Child Development 2 Cr.

Special problems and aspects in child development; preference given to students' interests. F-W

212-638 Child Abuse and Neglect 2 Cr.

How child abuse and neglect affects the abused/neglected child and the abusing/neglecting family; ways of coping with family and social problems. Prerequisites: 212-124 and 212-250. F-S-W

212-638A Child Abuse and Neglect 1 Cr.

How child abuse and neglect affects the abused/neglected child and the abusing/neglecting family; ways of coping with family and social problems. Prerequisites: 212-124 and 212-250. F-W-S

212-641 Understanding Children's Play 2 Cr.

Definitions, theories and types of play; the role of adults in fostering play, and the contributions of play to other areas of children's development. Prerequisites: 212-124 and 212-294.

212-650 Introduction to Marriage and Family Therapy 3 Cr.

Conceptual frameworks and approaches to marriage and family counseling. F

212-651 Marriage and Family Therapy Seminar 3 Cr.

Application of basic counseling techniques in premarital, marital, family and couples-group counseling; supervised by professional marriage and family counselor. Prerequisite: 212-650 or consent of instructor. W

212-653 Relationship Communication Training 2 Cr.

Communication theories and skills applied to marital, family and other intimate relationships. Application of communication skills to personal relationships and professional work. (Preferably, but not necessarily, have your premarital or marital partner with you). Prerequisite: consent of instructor. W

212-654 The Workplace and the Family 2 Cr.

Linkages between families and workplace; corresponding consequences for individual family well-being and the workplace. Prerequisites: 212-124 and 212-250 or consent of instructor. W

212-660 Current Topics in Sexuality 1 Cr.

Overview and evaluation of current research concerning human sexual behavior and attitudes. Prerequisite: 212-250. F-W-S

212-664 Special Topics in Early Childhood Curriculum 1-3 Cr.

Philosophy and methodology of early childhood education: problems confronting teachers. Prerequisite: 212-303. Repeatable for credit. F-S

212-664A Special Topics in Early Childhood Curriculum 1-3 Cr.

Philosophy and methodology of early childhood education: problems confronting teachers. Repeatable for credit. F-W-S

212-665 Administration - Early Childhood Education Programs 3 Cr.

A study of program organization, program design, staffing, licensing, certification, equipment and facilities for operating early childhood education programs. Field trips required. Prerequisite: 212-408B. F-S

212-666 Family Planning 1 Cr.

Factors influencing family planning; knowledge and services for effective family planning practice. Prerequisite: one undergraduate course in family relations. W

212-680 The Aging Person 2 Cr.

Characteristics and needs of aged members of society; intergenerational relationships of family members. F

212-685 Seminar - The Culturally Distinct Child and Family 3 Cr.

Study of ethnic, racial, cultural and economic influences on the child and family in the United States. Emphasis on improving human interactions. Prerequisite: 212-324 or 212-350. F-W

212-690 Death Education and Counseling in Families 2 Cr.

Death and dying theory; research, practice and application in education and individual and family counseling. Prerequisite: 212-351. F-S

212-693 Practicum in Child Development and Family Life 4-8 Cr.

Practicum experiences in child development, family relationships and human resource management within a community agency, business or organization. F-W-S

Apparel, Textiles and Design**214-109 Applied Design for Family Living 2 Cr.**

Identification and application of design elements and principles to specific areas of home economics. W

214-112 Aesthetics of Apparel 2 Cr.

Design elements and principles as related to apparel. Interrelationship of fabric and style of apparel as applied to the individual. F-W

214-120 Introduction to Apparel/Textiles/Merchandising 2 Cr.

Careers in fashion merchandising, clothing and textile industries terminology; professional and personal development. F-W

214-140 Textiles 3 Cr.

Selection, use and care of clothing and household fabrics: analysis of their components. Special course fee. F-W

214-166 Apparel Construction 3 Cr.

Construction theory and principles of fitting applied to garment construction. Recommended: 214-140. F-W

214-200 Fashion Fabrics 1 Cr.

Current fabrics and their application in apparel and the home. Prerequisites: 214-112 and 214-140. F-W

214-202 Quality Analysis of Sewn Products 3 Cr.

Factors that influence quality levels in manufactured apparel and other sewn products. Prerequisites: 214-112, 214-120, 214-140. F-W

214-227 Basic Merchandising 3 Cr.

Merchandising in department, specialty and discount stores; marketing strategies, operations, buying, trend merchandising, and fundamentals for apparel and hardlines. Prerequisite: 214-120. F-W

214-230 Merchandise Planning and Control 4 Cr.

Techniques of merchandising fashion departments: budgeting, assortment planning, managing inventory; buying for resale. Prerequisites: 214-227; 355-119 or 355-120. F-W-S

214-274 Apparel Manufacturing 3 Cr.

Production planning, quality control and analysis of apparel industry. Prerequisite: 214-166. F

214-275 Grading Apparel Patterns 2 Cr.

Develop grading charts. Proportionately change patterns to produce size ranges for various figure types. Prerequisite: 214-166. F-W

214-280 Flat Pattern 3 Cr.

Develop paper patterns by varying a master pattern. Original garments are designed and constructed. Prerequisite: 214-166. W

214-285 Design for Apparel Production 2 Cr.

Development of working apparel sketches for interpretation by apparel production personnel. Prerequisites: 214-110 and 304-101. F

214-299 Independent Study 1-3 Cr. F-W-S**214-329 Fashion Merchandising Promotion 3 Cr.**

Application of fashion merchandising promotion procedures: display, oral and written promotional communication, and publicity. Special course fee. Prerequisite: 214-227. F-W

214-330 Home Furnishings Merchandising 2 Cr.

Home furnishings merchandised by primary types of retail outlets. Prerequisite: 214-227. F-W

214-339 Apparel Merchandising 1 Cr.

Merchandising female apparel from showroom to consumer. Prerequisite: 214-330. F-W-S

214-368 Experimental Clothing 3 Cr.

Application of problem-solving techniques in designing and constructing garments using client approach. Prerequisites: 214-112, 214-140 and 214-280. F

214-374 Apparel Manufacturing Laboratory 2 Cr.

Practical application of concepts and procedures involved in the manufacture of marketable apparel products. Special course fee. Prerequisite: 214-274. W

214-398 Fashion Merchandising Field Experience 1-2 Cr.

Off-campus work and study in approved position to better understand challenges and potentials of various careers in merchandising and clothing and textile industries. Prerequisite: 214-120. F-W-S

214-400 Self-Presentation in Business 1 Cr.

Learn and practice skills of self-presentation in business and professional world. F-W-S

214-426 Fashion Merchandising Practicum 3 Cr.

Observation and structured experience in merchandising procedures dealing with complete operations and management of retail establishment. Prerequisite: 214-329. F-W-S

214-435 Merchandising Systems 1 Cr.

Analysis, evaluation, and decision making regarding systems and reports used in major forms of retail operations and merchandising. *F-W*

214-449C Clothing, Textiles and Design Cooperative Education 3-6 Cr.

Full-time supervised work experience with an approved clothing and textiles business/industry in an area related to the student's major concentration. Selection by application and interview. Prerequisites: 214-398, 2.75 minimum grade point average and junior or senior standing at time of enrollment. *F-W-S*

214-449F Fashion Merchandising Cooperative Education 3-6 Cr.

Full-time work and training in an approved position at a pre-selected business related to the student's major. Selection by application and interview. Prerequisites: 214-398, 2.75 minimum grade point average, and senior standing at time of enrollment. *F-W-S*

214-477 Study Abroad – American Fashion College 16 Cr.

A program for selected students which offers an opportunity to study at the American Fashion College in London and travel to Europe. Prerequisite: open only to clothing, textile and design and fashion merchandising major; requires a minimum grade point average of 2.5. Students must have completed 30 or more credits but not more than 96 credits. Students most recent 16 credits must have been completed at UW-Stout when applying. *F*

214-492 Practicum in Textile Printing 2 Cr.

Use of textile design techniques: silk screen, tie dye, printing and batik; emphasis on good design and creativity. Special course fee. Prerequisite: 304-101. *W*

214-499 Independent Study 1-3 Cr. *F-W-S***214-519 International Economic Trends in Textiles/Clothing 2 Cr.**

Economic importance of the textile and apparel industries in the United States and the world. Special course fee. Prerequisites: 214-140 and 320-210. *W*

214-525 Men's and Boys' Merchandising 1 Cr.

Specialized techniques of merchandising men's wear and boys' wear: stock planning, market trends and controls. Prerequisite: 214-339. *F-W*

214-527 Store Management 3 Cr.

Develop management skills for retail stores of varying size. Prerequisites: 214-230, senior or graduate standing. *F-W*

214-535 Special Topics in Fashion Merchandising 1-2 Cr.

Special topics in fashion merchandising. Repeatable for different topics. Prerequisites: completion of basic courses within the area or consent of instructor. Repeatable for credit. *F-W-S*

214-550 Textile Evaluation 3 Cr.

Problems in fiber identification, fabric performance and care; chemical and microscopic testing procedures; methods for gathering and interpreting data; individual problems. Prerequisite: 214-140. *F-W*

214-555 Special Topics in Textiles and Clothing 1-2 Cr.

Special topics in clothing and textiles. Repeatable for different topics. Repeatable for credit. *F-W-S*

214-568 Engineered Tailoring 3 Cr.

Application of traditional and industrial production methods to construction of tailored garments. Prerequisite: 214-166. *F*

214-581 Functional Clothing Design 3 Cr.

Application of physical science theory to problems in clothing design: impact protection and thermal balance of the human body, structural properties of materials, and apparel forms. Prerequisites: 214-368 and 214-550. *W*

214-590 Practicum in Textile Design 3 Cr.

Use of textile design techniques as means of artistic expression: stitchery, weaving, knotting, applique, and hooking; emphasis on good design and creativity. Prerequisites: 304-101 or consent of instructor. *W*

214-591 Natural Dyeing and Hand Spinning 2 Cr.

Gather dyes from local environment, select mordants, dye fibers; spin dyed fibers on spinning wheels/drop spindles; historic dimensions. Special course fee.

214-593 Design Problems in Textile Printing 3 Cr.

Advanced textile printing practicum with specific concern for design problems. Special course fee. Prerequisite: 214-492.

214-594 Knit Design and Technology 2 Cr.

Basic stitch formation and patterning of warp and filling knits. Influences on aesthetics and performance of knit fabrics. Production of knitted garments on a flatbed knitting machine. Special course fee. Prerequisite: 214-140. *F-W*

214-610 History of Costume – Ancient to European 3 Cr.

Development of costume throughout the ages: fashion as it reflects past cultures and influences present day costume. *F*

214-611 History of American Costume 3 Cr.

Evolution of American costume from colonial times to present; costume characteristics and social, political, religious and cultural influences. *W*

214-617 Social/Psychological Aspects of Clothing 3 Cr.

Social and psychological influence of dress on individual and group behavior patterns. *F-W*

214-619 National Study Tour to Fashion Industry 1 Cr.

Five-day visit to New York or alternate city: study hours, discussions and lectures by leaders in American fashion market. Prerequisite: junior, senior or graduate standing. Repeatable to different location. *W-F*

214-625 Mass Merchandising 2 Cr.

Comparative history, planning, design and techniques of merchandising and operations. Prerequisite: 214-227. *F-W*

214-680 Draping 3 Cr.

Application of draping principles in design and construction of garments; emphasis on creativity. Prerequisite: 214-166. *F*

214-685 Apparel Design Studio 2 Cr.

Analysis of designer responsibilities. Creation and development of original designs using flat pattern and/or draping techniques. Preparation of a professional portfolio. Prerequisites: 214-581, 214-680 and 304-534. *W*

214-690 Advanced Fiber Design 1-3 Cr.

Creative exploration of textile design: stitchery and applique. Prerequisite: 214-590. *W*

214-693 Structural Design and Weaving 2 Cr.

Experiences in loom weaving including two- and four-harness techniques. Special course fee. Prerequisite: 304-101. *W*

214-694 Advanced Weaving Studio 2 Cr.

Complex hand-weaving techniques: block theory, pile constructions, leno techniques and double cloth. Individual work encouraged. Special course fee. Prerequisite: 214-693. *W*

214-695 Historic and Contemporary Fabrics 3 Cr.

Analysis of designs and techniques of decorating historic and contemporary fabrics; contribution of decorative fabrics to enrichment of human experience. *F*

Food and Nutrition**229-101 Dietetics As a Profession 1 Cr.**

Survey of types of dietetic and food service administration programs in the United States; role and function of staff; professional literature. *F*

229-105 Applied Nutrition Topics for Non-Majors .5-2 Cr.

Study of applied topics in nutrition. Repeatable for different topics. Open only to non-nutrition majors. *F-W-S*

229-124 Foods 4 Cr.

Scientific principles and application in the selection, preparation and service of food. F-W

229-136 Nutrition for Young Children 2 Cr.

Food needs of infants and young children. For early childhood education majors; not applicable for students with credit in 229-212. F

229-202 Fundamentals of Nutrition 2 Cr.

Basic principles of applied nutrition; not applicable for students in Home Economics Educational Services, Dietetics, Home Economics in Business, Food and Nutrition, nor those with credit in 229-212. F-W

229-205 Nutrition for Weight Control 2 Cr.

Principles of nutrition related to physical stamina, mental alertness and emotional stability of people undergoing weight modification.

229-206 Nutrition in the Hospitality Industry 2 Cr.

Basic principles with application to the hospitality industry. Basic physiological nutrition; cultural and psychological influences on food preference. Interpretation of nutrition information, food composition data, and discussion of appropriate products and services. Nutrition analysis and programming on and off the computer will be stressed. Not appropriate for students with credit in 229-202 or 229-212. Prerequisite: Admission to Hotel and Restaurant Management program. W-F

229-212 Nutrition 3 Cr.

Basic principles of nutrition applied to current issues in health maintenance. For Dietetics, Home Economics Educational Services, Home Economics in Business, Food and Nutrition majors and/or students with science prerequisites. Prerequisites: 308-132 and 311-115 or 311-125. F-W

229-220 Outdoor Cooking 1 Cr.

Food preparation principles in cooking and serving outdoors; equipment for outdoor food preparation; foods for camping, backpacking and canoe camping; preparing wild game and gathering and preparing wild foods.

229-225 Special Topics in Food and Nutrition 1-2 Cr.

Study of special topics in Food and Nutrition. Repeatable for credit.

229-240 Food Science 4 Cr.

Physical and chemical changes affecting selection, preparation and service of food. Prerequisite: 311-201.

229-260 Menu Planning and Design 2 Cr.

Principles of menu planning, design and production for commercial and institutional food establishments. W

229-296B Food for Sports 1 Cr.

Fundamentals of nutrition applied to optimum performance in sports activities. Discussion of prevalent unsound nutritional practices as well as non-traditional diet patterns. Note: This course will not fulfill nutrition block requirements for dietetic majors.

229-299 Independent Study 1-3 Cr. F-W-S**229-302 Beverage Industry: History, Sales, Employment 2 Cr.**

Overview of beverage industry. Emphasis on history, definition, classification, manufacture/production, packaging, service, consumption and nutrition. Discussion of sales trends and employment projections. FE

229-305 Baking Processes 1 Cr.

Art and science of baking; home and industrial methods. May be repeated for different subunits. Repeatable for credit. F-W

229-305A Baking Processes – Yeast Breads 1 Cr. F-W**229-305B Baking Processes – Cakes 1 Cr. F-W****229-305C Baking Processes – Quick Breads 1 Cr. F-W****229-305D Baking Processes – Pastry and Pasta 1 Cr. F-W****229-308 Management of Food Production 3 Cr.**

Development and application of management principles to decision making in small batch food production which is based on menu driven concepts. Special course fee. Prerequisites: 229-124 or 229-240 and 229-212 or 229-202. F-W-S

229-380 Community Nutrition 3 Cr.

Current status and legislation of community nutrition programs. Assessment of community needs and resources, program planning, funding and evaluation. The role of the community nutritionist/home economist to help individuals, families and communities solve nutrition problems. Prerequisite: 229-212. W

229-397C Field Experience (Seminar) 1-2 Cr.

Field experience related to the dietetic, food industry, food service administration or food and/or nutrition education areas. Prior approval of field position, 320 hours of work experience, and seminar. Written reports required for two credit option.

229-397E Field Experience 1-2 Cr.

Field experience related to the dietetic, food industry, food service administration or food and/or nutrition education areas. Prior approval of field position, 320 hours of work experience, and seminar. Written reports required for two credit option.

229-404 Food Service for Children 3 Cr.

Overview of food preparation and food service administration principles with specific application to food production for children in the home and in centers. Prerequisites: 229-136 and 229-212. WO

229-410 Advanced Nutrition 3 Cr.

Principles of human nutrition applied to individual, family, community and world problems. Prerequisites: 229-212 and 311-511. F

229-446 Food Preservation 1 Cr.

Principles and practical application of methods of food preservation and storage. F

229-499 Independent Study 1-3 Cr. F-W-S**229-505 Nutrition for the Aged 2 Cr.**

Nutrient requirements and food consumption patterns of the elderly; food services for aging Americans. Prerequisite: 229-212. W

229-525 Special Topics in Food and Nutrition 1-2 Cr.

Study of special topics in Food and Nutrition. Prerequisites: 229-212; and for 500 level, completion of basic courses in the area. Repeatable for credit. WO

229-542 Advanced Foods 2 Cr.

Comparative studies of food selection and preparation: appraisal of foods. Prerequisite: 229-124 or 229-240. F-W

229-550 Fast Food Operations 3 Cr.

Organization and function of fast food service operations. Work methods procedures, staffing, food quality and quantity control, space and equipment maintenance, safety, sanitation, merchandising and career options will be covered. Not available for credit to students who have taken 245-550. Prerequisites: 229-124 or 229-240; 229-308 and 245-311. F-W

229-555 Sports Nutrition 3 Cr.

Nutritional and metabolic requirements of physical activity. Metabolic requirements of physical activity. Metabolic fuel utilization during exercise and physiological adaptations to exercise training will be discussed. The health and well-being benefits of an optimal diet-exercise regime will be emphasized. Prerequisite: 229-410. W-S

229-604 Food Service Practicum for Child Care Centers 1 Cr.

Application of food management principles for directors of child care centers: personnel management, menu planning; recipe selection, standardization and adjustment; food purchasing and storage, food production and service, equipment use, sanitation and safety, and nutrition education in day-care setting. Graduate Objective: Analyze food and nutrition services of a child care operation and develop a plan of action for a stated function. F-W

229-606 Nutrition Education 3 Cr.

Nutrition education as planned behavioral change: problems and solutions in instructing various populations; identification, development and evaluation of nutrition resources. Prerequisites: 229-212, 242-201, 229-308, 229-410 or consumer course if required in program, consent of instructor, and junior standing. F-W

229-612 Clinical Experience – Community Nutrition Programs 1 Cr.

Practical experience with community nutrition program; basic nutrition program or food service operation and nutrition education activity. Recommended: 229-618 and 229-630. Prerequisites: 229-308 and 229-410; and 229-606 and 229-380. F-W

229-614 Catering 3 Cr.

Theory and application of operational and managerial principles for on- or off-premise catering for special events. (Cannot be taken for credit by students who have previously taken 245-614) Prerequisites: 229-124; 229-260 or consent of instructor. Junior standing or above. F-W

229-618 Diet Therapy 4 Cr.

Principles and methods for use of diet as therapy in certain pathological conditions. Prerequisites: 229-308 and 229-410. F-W

229-620 Food Styling 1-3 Cr.

Food as media for artistic expression; effective use of color, form and texture. Prerequisites: 229-124 or 229-249 and senior or graduate standing or consent of instructor. Repeatable for credit. F-W

229-630 Food Behavior 3 Cr.

Food behavior: how it controls eating problems, resultant nutritional status; formation of food patterns to meet physical, physiological, psychological or social needs; modification of food behavior. Recommended: courses in social and behavioral sciences. Prerequisite: senior or graduate standing and 229-212 (preferably within past two years). FE

229-633 Maternal and Child Nutrition 3 Cr.

Application of principles to maternal, infant, child and adolescent nutrition. Prerequisites: 229-212 and 308-132. F

229-638 Experimental Foods 3 Cr.

Experimentation with selected food materials, techniques and equipment; directed study in individually chosen area. Prerequisites: 229-124 or 229-240 and 311-201. F-W-S

229-650 Food Processing 3 Cr.

Industrial methods used to prepare and preserve food. Prerequisites: 229-124 or 229-240, 355-120. W

229-661 Social and Cultural Aspects of Food 2 Cr.

Social, economic, and cultural influence on human food patterns. Prerequisites: 229-124 or 229-240 and senior or graduate standing or consent of instructor. F-W

Home Economics Educational Services**242-101 Experiential Learning in****Home Economics Educational Services 2 Cr.**

Contribution of home economics educational services to development of individuals and families; responsibilities of a professionally trained home economist. F

242-201 Teaching Techniques in Home Economics 2 Cr.

Study of teaching techniques and skills for home economics learning experiences in relation to classroom organization and objectives. F-W

242-240 Clinical Experience in Microteaching 1 Cr.

Microlessons with microclasses will be videotaped and reviewed for self-evaluation and critique with instructor. F-W

242-241 Clinical Experiences in the Community 1 Cr.

Plan and implement home economics learning experiences for children and adults in community programs. Repeatable for credit. F-W

242-299 Independent Study 1-3 Cr. F-W-S**242-301 Home Economics Curriculum 3 Cr.**

Development of curriculum to meet needs of students in home economics programs. Prerequisite: Junior or senior standing. W

242-341 Clinical Experiences in Schools 1 Cr.

Supervised experience in classroom teaching for development of motor, perceptual, social and cognitive learning through home economics substantive areas. Recommended: 242-240. F-W

242-397C Field Experience – Home Economics 1 Cr.

Field experience related to home economics skills and knowledge used in teaching home economics wage earning courses at secondary level. F-W-S

242-397E Field Experience – Home Economics 1 Cr.

Field experience related to home economics skills and knowledge used in teaching home economics wage earning courses at secondary level. F-W-S

242-443 Clinical Seminar in Home Economics Education 2 Cr.

Preparation for and evaluation of student teaching experience: analysis of classroom situation and evaluation of teaching process. Concurrent enrollment in 242-444 required. Recommended: 242-301. F-W

242-444 Practicum in Teaching Home Economics 6 Cr.

Experience in applying teaching and learning theory: self-evaluation and analysis of teaching/learning situation under guidance of master teacher. Concurrent enrollment in 242-443 required. Recommended: 242-301. F-W

242-448 Student Teaching –**Home Economics Education/Family Life 14 Cr.**

Student teaching practicum in K-12 settings in home economics education/family life. Prerequisites: concurrent with 242-443; 242-301; 242-460; recommendation of Home Economics Education Screening Committee. Grade point average of 2.75. F-S

242-460 Home Economics/Family Life Evaluation 3 Cr.

Develop evaluation for home economics subject matter and critical-thinking skills. Not applicable to occupational certification. Concurrent enrollment in 242-301 required.

242-488 Internship Teaching 8 Cr.

Alternate method of obtaining student teaching experience. Teacher interns receive license to teach and salaried appointments in cooperating school systems for one semester. Prerequisite: 242-301. F-W

242-499 Independent Study 1-3 Cr. F-W-S**242-500 Externship – Home Economics Community Education 4-8 Cr.**

Practicum in one or more of following home economics education programs: extension services, elementary education, post-secondary education, occupational teaching experience and community educational services. Approval of graduate program director required if taken for graduate credit. Prerequisite: consent of department. F-W

242-503 Home Economics in the Middle and Elementary School 3 Cr.

Develop techniques, materials and curriculum concepts in home economics with application of human growth and development principles for teaching in middle and elementary school. W

242-544 Future Homemakers of America Workshop 1 Cr.

Integration of Future Homemakers of America and the Home Economics Related Occupations student organizations into the home economics classrooms and programs. Prerequisite: junior standing. S

242-596 Curriculum Production Laboratory 1 Cr.

The research, development and writing of home economics curriculum for a contemporary home economics program. S

242-620 Vocational Programs in Home Economics 2 Cr.

Techniques, materials and curriculum for home economics wage-earning programs in secondary and post-secondary schools; preliminary procedures for program development. Prerequisites: 199-502 and 242-301. W

242-630 Concepts of Extension Education 2 Cr.

Concepts and processes in conducting educational programs for adults and youth: philosophy, objectives and organization of extension education; leadership, development, program development, teaching methods and evaluation. Prerequisite: senior or graduate standing in Home Economics or Home Economics Educational Services. W

242-651 Family Life Education Programs 2 Cr.

Development of family life education programs including methods, materials and techniques for teaching family relationships and child development at the secondary level. F-W

Habitational Resources

245-X97 Field Experience 2 Cr.

245-X98 Hotel and Restaurant Field Experience 1-2 Cr.

Off-campus work and study in an approved position to better understand the challenges and potentials of various careers in the hospitality area. Prerequisite: 245-100. F-W-S

245-100 The Role of Management in Hospitality Industry 2 Cr.

Prospective managers define and analyze nature of work, people, change and education and their interrelationships within hospitality industry. F-W

245-200 Introduction to Property Management 2 Cr.

Management in commercial and multi-family property. Employees, management tools, government involvement, community development, clients, property law and tax requirements. F-W-S

245-201 Hospitality Housekeeping Management 2 Cr.

Management principles applied to duties and responsibilities of housekeepers in hotels, motels, institutions and other hospitality enterprises. F-W

245-202 Front Office Management 3 Cr.

Principles required to organize, operate and manage hotel or motel front office; guest needs, salesmanship and procedures for different types of front office operations. F-W-S

245-205 Hospitality Organization Management 3 Cr.

Management principles for hotels and restaurants, supervisory development and training, labor relations, union contracts, ownership and financial structure and managerial interpretation and evaluation of current systems and procedures. Prerequisite: 245-100. F-W

245-222 Institutional Food Purchasing 2 Cr.

Methods of large-quantity food purchasing: determining standards, specific needs and industrial offerings; formulating specifications, buying procedures and controls. Prerequisite: 229-124. F-W

245-240 Introduction to Tourism and the Travel Industry 2 Cr.

Principles and current knowledge of domestic and international tourism; benefits to community, area, state and nation; trends and potentials. Prerequisite: 320-210. F-W-S

245-250 Family Housing 3 Cr.

Relationship of space, equipment, aesthetics and culture to human habitat. F-W

245-275 Management of Family Resources 3 Cr.

Application of basic management concepts to family economics. F-W

245-299 Independent Study 1-3 Cr. F-W-S

245-301 Bar Management 2 Cr.

History, format and management of bar operations. F-W

245-311 Quantity Food Production 3 Cr.

Quantity food production concepts; menu planning, recipe development, work production schedules, production analysis, food and labor cost controls, and introduction to productivity and work simplification concepts; lab work in food production and service. Prerequisite: 229-124. F-W-S

245-312 Restaurant Operational Management 3 Cr.

Service of special functions, banquets, receptions: planning, preparation service, menu planning, cost controls, classical buffet setups and personnel organization. Prerequisites: 229-124 and 245-311. F-W-S

245-340 Development of Tourism Attractions 3 Cr.

Diversified natural and man-made background tourism elements (BTE): preservation and incorporation of concepts for development of tourism destinations. Prerequisites: 245-240 and 320-210. F-W-S

245-341 Tourism Goods and Services 3 Cr.

Total and component parts of tourism goods and services; present and future patterns of supply and demand. Prerequisites: 245-240 and 320-201. F-W

245-344 Hospitality Marketing and Sales 3 Cr.

Analysis of theories, fundamental principles and techniques of hospitality marketing and convention sales; functions, interrelationships and coordination of all hospitality departments and their roles in assuring success of marketing effort. Prerequisite: junior standing or consent of instructor. F-W-S

245-350 Psycho-Socio Aspects of Housing 2 Cr.

Analysis of socio-psychological factors associated with housing. Biological, psychological, and sociological human needs are used to evaluate residents' satisfaction of their housing environment. Possible responses to residential dissatisfaction are identified and evaluated. Prerequisites: 245-250 and 387-110 or 479-110, or consent of instructor.

245-355 Energy and Household Equipment 3 Cr.

Physical principles and fuels involved in household appliance operation; selection, operation, use and care of small, portable appliances. F

245-360 Consumer Economics 3 Cr.

Motives for consumption, family income and expenditures, selection of commodities and services, buying and selling practices; evaluate consumer aids, investigate local situations. Prerequisite: 320-201. F-W

245-370 Hotel and Restaurant Accounting 3 Cr.

Design and interpretation of specialized accounting and financial control systems in management decision making; uniform system of accounts, departmentalized costing procedures, statement analysis and interpretation. Prerequisite: 160-206. F-W

245-371 Food, Beverage and Labor Cost Controls 3 Cr.

The use of financial techniques and systems to control food, beverage and labor costs in hospitality food service operations. F-W-S

245-375 Computer Systems for Food Service 2 Cr.

Functions of computers in a variety of food service operations with specific emphasis on point-of-sale systems and food service application hardware. Hands-on experience using the NCR 2160 system and microcomputers. Prerequisites: 200-325 or 300-111, 245-311, 245-371 or 354-140, or consent of instructor. W

245-436 Commercial and Residential Lighting 2 Cr.

Practical information on light for general residential living; sociological, psychological and physical aspects of lighting environment. F-W

245-455 Kitchen Planning 2 Cr.

Arrangement of work centers, equipment, storage and activities for maximum efficiency in residential kitchen design. Prerequisite: 245-250. W

245-482 Seminar in Hotel and Restaurant Management 3 Cr.

An advanced course in management. The student will select and research a current topic of importance to the industry. Prerequisites: 245-140 and 245-300. Repeatable for credit.

245-495 Hotel and Restaurant Internship 6-8 Cr.

Prearranged advanced positions similar to management training programs in hospitality management. (Available for 8 semester credits and 6 summer credits. Summer internships 12 weeks minimum). Prerequisite: Ninety credits with 3.25 grade point average, Hotel and Restaurant Management major, and Internship Committee approval. F-W-S

245-499 Independent Study 1-3 Cr. F-W-S

245-501 Food Service Administration 3 Cr.

Organization and administration of institutional food service systems, personnel selection and training, cost control and problems of supervision. Prerequisite: 229-318. F-W

245-513 Quantity Food Production and Service 3 Cr.

Application of food preparation principles to large-quantity production; menu and formula standardization, food production costs and menu planning for institutions. Prerequisite: 245-312 or 245-501. F-W-S

245-515 Lodging Administration 3 Cr.

Analysis of theories, principles and techniques of lodging management; problems and issues encountered by management in providing quality service within cost-efficient organization. Prerequisites: 245-201 and 245-202. F-S

245-521 Food Service Equipment 2 Cr.

Factors affecting design, selection, physical facilities and utilities involved in food service equipment. F-W-S

245-550 Fast Food Operations 3 Cr.

Organization and function of fast food service operations. Work methods procedures, staffing, food quality and quantity control, space and maintenance, safety, sanitation, merchandising and career options will be covered. Not available for credit to students who have taken 229-550. F-W

245-565 Consumer Aspects of Life Insurance 1 Cr.

Comparative methods of determining life insurance needs; evaluation of adequacy of policy and program features; relevance to family financial planning. Prerequisite: 245-275 or consent of instructor. F

245-566 Consumer Aspects of Health Insurance 1 Cr.

Types and sources of health insurance available to U.S. consumer; analysis of American health-care crisis and proposed solutions. Prerequisite: 245-275. F

245-600 Integrated Management Systems - Hospitality 2 Cr.

Exploration, comparison and synthesis of practices, concepts and theories in hospitality management systems. Prerequisite: 245-205. F-W-S

245-614 Catering 3 Cr.

Theory and application of operational and managerial principles for on- or off-premise catering for special events. (Cannot be taken for credit by students who have previously taken 229-614.) Prerequisites: 229-124, 229-260 or consent of instructor, junior standing or above. F-W

245-625 Hospitality Industry Law and Liability 3 Cr.

Laws applicable to ownership and operation of inns, hotels, motels, restaurants and other places of public hospitality. Prerequisite: 160-318. F-W

245-626 Hospitality Industry - Employee and Labor Relations 2 Cr.

Investigation of employee and labor relations in the hospitality industry; history, legality and techniques of dealing with unionization. F-W

245-640 Psycho-Social Dimensions of Tourism 3 Cr.

Various psycho-social dimensions of tourism: motivation, development, community and conflict as related to consumer-tourists, tourists and residents. W

245-644 Resort Planning and Operation 3 Cr.

Planning and operation of individual destination resorts. Analysis of resort concept, history, master planning, environmental impact, facility design, maintenance and operational management. Prerequisite: 245-340 or consent of instructor. W

245-645 Geography of Tourism 3 Cr.

Locational analysis of land use and human migration in national and international tourism. Prerequisites: 245-240 and 245-340. F-W

245-655 Major Kitchen Appliances 3 Cr.

Detailed structure and performance analysis of ranges, refrigerators, freezers, disposers, dishwashers, microwave ovens and selected kitchen appliances. Prerequisite: 245-355. S

245-656 Microwave Oven 2 Cr.

Application of microwave heating principles to food preparation and service. F-W

245-657 Food Service Microwave Oven 2 Cr.

Microwave heating principles using commercial microwave ovens in food service. Prerequisite: 229-124 or 229-240. F-W

245-660 Consumer Credit 1 Cr.

Types and sources of credit, determination of credit costs, considerations before using, and regulatory laws. Prerequisite: 245-360. S

245-662 Consumer Protection 1 Cr.

Major federal and state consumer protection agencies; major business, industry and private organizations set up to aid consumers; avenues of individual and collective consumer redress. Prerequisite: 245-360. W

245-663 Consumer Law 1 Cr.

Major federal and state consumer protection laws, difficulties in obtaining passage and implementation, and pending federal and state consumer protection legislation. Prerequisite: 245-360. F-W

245-670 Hospitality - Financial Analysis/Budget/Forecasting 3 Cr. Application of accounting and financial analysis techniques to managerial decision-making in hospitality industry. Prerequisites: 160-206, 245-370 and 245-371. F-W-S

245-676 Family Finance 2 Cr.

Financial decisions and judgments that average individuals and families must make during a lifetime; income and occupation, family expenditures, credit, savings, taxes and estate plans. Prerequisite: 320-201. F-W

245-678 Financial Planning for Retirement 2 Cr.

Financial considerations made in preparing for and during retirement. Emphasis on the values, goals, income, expenditures, credit, savings, investments, taxes and estate plans. Prerequisite: senior standing. F-W-S

245-681 Special Problems in Habitational Resources 2 Cr.

Current problems in habitational resources; seminar topic chosen by instructor, individual or group. Repeatable for credit. F-W-S

245-682 Hospitality and the Handicapped Traveler 1 Cr.

Provide increased sensitivity to needs of handicapped traveler; problems and possible solutions for hospitality organizations. F-W

245-684 Seminar in Property Management 2 Cr.

Culminating professional course for the Property Management minor program. Preparation of a property management plan for a specific property. Discussion of current trends and industry problems. Prerequisite: Reserved for final semester for students in the Property Management minor. W

Interdepartmental - Liberal Studies

300-101 Computer Literacy 2 Cr.

Brief interdisciplinary introduction to computers, including the areas of hardware, software, history, programming logic and language, different types of systems and applications of computers in various areas. A student who takes Computer Applications in Business (354-142) cannot also get credit in Computer Literacy. F-W

300-199 Independent Study 1-3 Cr. F-W-S

300-220 Modern China and Japan 3 Cr.

Introduction to geography, culture, history, politics, and economics of contemporary China and Japan. Comparison of policies on trade, industry, agriculture, energy, education, welfare, foreign affairs and other current problems. F-W-S

300-249 Cooperative Education Program in Liberal Studies 2-8 Cr.
Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisites: consent of instructor and department chair. F-W-S

300-250 Soviet Seminar Tour 2 Cr.
Introduction to Russian civilization and contemporary Soviet society and government: tours of schools, museums, churches and historical sites; seminars with Soviet students and community leaders. W

300-260 The China Seminar 2 Cr.
Introduction to Chinese civilization, contemporary society, and government including tours within China of schools, museums, communes, factories and historical sites. F

300-299 Independent Study 1-3 Cr. F-W-S

300-349 Cooperative Education Program in Liberal Studies 2-8 Cr.
Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisites: consent of instructor and department chair. F-W-S

300-399 Independent Study 1-3 Cr. F-W-S

300-449 Cooperative Education Program in Liberal Studies 2-8 Cr.
Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisites: consent of instructor and department chair. F-W-S

300-499 Independent Study 1-3 Cr. F-W-S

300-510 Introduction to Women's Studies 2 Cr.
An examination of the experience of women in American society, their past and present contributions and roles, and perspectives on the future. F-W

300-511 Topic in Women's Studies 1-3 Cr.
Exploring, from interdisciplinary perspective, new information and ideas in a selected area of significance to women's studies. Prerequisite: 300-510.

300-575 The Ascent of Man 2 Cr.
Exploring the nature and intellectual, philosophical and technical growth of humankind using "The Ascent of Man" TV series as basis for thought and discussion. W

300-599 Independent Study 1-3 Cr. F-W-S

300-699 Independent Study 1-3 Cr. F-W-S

Anthropology

303-199 Independent Study 1-3 Cr. F-W-S

303-220 Cultural Anthropology 3 Cr.
Introduction to concepts and methods; variability of culture; outline of cultural elements; processes of cultural change. F-W

303-249 Cooperative Education Program in Liberal Studies 2-8 Cr.
Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: consent of instructor and department chair. F-W-S

303-250 The Human Past 3 Cr.
Biological anthropology: humans as primates, origins of humans, stages of human evolution, and relationship of biology and culture. F

303-299 Independent Study 1-3 Cr. F-W-S

303-300 Native Americans 3 Cr.
North American Indians: native American cultures prior to European contact, Indian/European historical relationships and contemporary reservation/urban Indian life and issues. W

303-349 Cooperative Education Program in Liberal Studies 2-8 Cr.
Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: consent of instructor or department chair. F-W-S

303-399 Independent Study 1-3 Cr. F-W-S

303-410 Cultural Orientation and Field Experience Abroad 2 Cr.
Practical and theoretical intercultural orientation for the study/living abroad experience and evaluation of this experience upon return. Students must have a study abroad experience to complete the requirements of this course. F-W

303-449 Cooperative Education Program in Liberal Studies 2-8 Cr.
Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: consent of instructor or department chair. F-W-S

303-499 Independent Study 1-3 Cr. F-W-S

303-610 The Anthropological Study of Family Systems 3 Cr.
Anthropological, cross-cultural view of family systems, with attention to their organization, functions, dynamics and articulation with other institutions. Prerequisite: 303-220. W

303-660 Anthropology of Human Relations 2 Cr.
Human relations, viewed intraculturally and cross-culturally, explored through family culture and its networks with the greater society, world view systems, and communication patterns. Applications to specific Wisconsin cultures. W

Art

304-100 Drawing I 3 Cr.
Concentration on the development of visual sensitivity through drawing with various media. F-W

304-101 Fundamentals of Design 3 Cr.
Basic two- and three-dimensional design using various media for development of visual sensitivity. F-W

304-145 The Practice of Art 2 Cr.
Introduction to creative concepts, techniques of presentation, practices in studio art, function of criticism, portfolio ingredients and opportunities in the art world. S

304-199 Independent Study 1-3 Cr. F-W-S

304-202 Introduction to Art 3 Cr.
Art appreciation and historical survey for the non-Art major. F

304-204 Interior Design 3 Cr.
Design and development of interior spaces with a sensitivity to human interaction, materials, and furnishing. Prerequisite: 304-101. F-W

304-210 Letter Form Design 3 Cr.
Design of letterforms, figures, and visual symbols; history and development of type; calligraphy; page composition for various formats and audiences. Prerequisites: 304-100 and 304-101. F

304-249 Cooperative Education Program in Liberal Studies 2-8 Cr.
Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: consent of instructor or department chair. F-W-S

304-256 Art Workshop 1-3 Cr.
Selected art concepts, processes and media will vary to serve special student populations. Credit determined by individual contract. Repeatable for credit. F-W-S

304-299 Independent Study 1-3 Cr. F-W-S

- 304-300 Design Theory and Methods 3 Cr.**
A study and application of various techniques and theories of design to fundamental design problems. Prerequisite: 170-205 or 304-101. F-W
- 304-304 Interior Design II 3 Cr.**
Design problems for interior spaces with emphasis on concepts, human interaction, and materials. Prerequisite: 304-204. F-W
- 304-305 Presentation Techniques 3 Cr.**
Experience in the various techniques of visually developing and presenting a design. F-W
- 304-310 Graphic Design I 3 Cr.**
Study and creation of visual images used to inform and/or persuade specific audiences. Prerequisite: 304-101. F-W
- 304-314 Interior Design Procedures and Specifications 2 Cr.**
Professional procedures and specifications for interior design proposals; quality control, material performance, public standards and use of related forms. Prerequisite: 304-204. S
- 304-315 Environmental Interior Design I 3 Cr.**
Analysis and application of various office systems as they apply to and are a part of an architectural setting. Prerequisite: 304-204.
- 304-316 Environmental Interior Design II 3 Cr.**
Analysis and application of various systems in an architectural setting for use in the design of public spaces, such as banks, malls, restaurant and hotels. Prerequisite: 304-204 and 304-315.
- 304-319 Evolution of Design 3 Cr.**
Examination of basic concepts which influence the evolution of architecture, art and design. S
- 304-320 Interior Furniture Design 3 Cr.**
Applied studio projects with structural, material, economic and aesthetic considerations in the design of contemporary furniture. F-W
- 304-330 Industrial Design I 3 Cr.**
First course in the industrial design sequence providing an overview of design skills in their application to the resolution of product design problems. Prerequisites: 304-300 and 304-305 or 170-205. F-W
- 304-335 Product Form Design 3 Cr.**
Exploration of product forms through drawing and model-building techniques. Prerequisites: 304-300, 304-305, 304-330, 170-102 and 170-103. F-W-S
- 304-340 Industrial Design II 3 Cr.**
Increased understanding of design as applied to the resolution of complex product design. Prerequisite: 304-330. F-W
- 304-349 Cooperative Education Program in Liberal Studies 2-8 Cr.**
Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: consent of instructor or department chair. F-W-S
- 304-360 Graphic Design II 3 Cr.**
Application of social, business and ethical factors affecting visual communication, while increasing sensitivity and experience in graphic design. Prerequisite: 304-310. F-W
- 304-380 Signage and Exhibition Design 3 Cr.**
Organization and design of environmental graphics through the production of signage, display, and exhibition support systems. Prerequisite: 304-360. S
- 304-399 Independent Study 1-3 Cr. F-W-S**
- 304-405 Advanced Presentation Techniques for Designers 3 Cr.**
Techniques and skills for presentation and communication of visual materials; advanced perspective, mixed-media rendering, transparent watercolor rendering, gouache rendering applied to presentation of product's interiors and exteriors. Prerequisite: 304-305. F-W
- 304-410 Product and Packaging Graphics 3 Cr.**
Design and application of graphics to products, packages, and related display systems. Prerequisites: 304-360 or 304-310 with consent of instructor.
- 304-430 Industrial Design III 4 Cr.**
Advanced design problems chosen by consultation between student and instructor. Prerequisites: 304-330 and 304-340. F-W
- 304-431 Symposium in Interior Design 2 Cr.**
Exposure to and discussion of the practical working world of the interior designer. Prerequisite: concurrent enrollment in 304-301. F-W
- 304-432 Industrial Design Portfolio 1 Cr.**
Role and actual development of an industrial designer's portfolio with emphasis on importance of the portfolio in communicating with prospective employers throughout the career. Prerequisite: 304-340. F-W
- 304-440 Industrial Design IV 4 Cr.**
Professional level of understanding and skill applied to advanced design problem chosen in consultation between student and instructor. Prerequisite: 304-330, 304-340 and 304-430. F-W
- 304-449 Cooperative Education Program in Liberal Studies 2-8 Cr.**
Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: consent of instructor or department chair. F-W-S
- 304-451 Interior Design Practicum 3 Cr.**
Work experience with an interior designer or in design-related field arranged with interior design work experience coordinator. Prerequisites: 304-204 and 304-205. F-W
- 304-480 Senior Project - Graphic Design 4 Cr.**
Exploration of an advanced graphic design topic through an extensive project: research, production specification, and development of a presentation system. Prerequisites: 304-380 and 304-410.
- 304-499 Independent Study 1-3 Cr. F-W-S**
- 304-500 Drawing II 1-3 Cr.**
Continuation of 304-100; exploitation of media for creative and expressive ends. Initial enrollment must be for 3 credits. Prerequisite: 304-100. Repeatable for credit. F-W
- 304-501 Life Drawing I 3 Cr.**
Drawing the human figure in action or at rest; problems in figure composition. Prerequisites: 304-100 and 304-500. F-W
- 304-502 Life Drawing II 1-3 Cr.**
Advanced problems in figure composition and graphic interpretation of the figure. Initial enrollment must be for 3 credits. Prerequisite: 304-501. Repeatable for credit. F-W
- 304-503 Design 3 Cr.**
Application of basic design principles using various media for development of visual sensitivity to three-dimensional form. Prerequisite: 304-101. Repeatable for credit. F-W
- 304-509 Painting I 3 Cr.**
Introduction to character and use of various painting media; work from still life and life with reference to problems of two-dimensional color composition. Prerequisite: 304-500. F-W-S
- 304-510 Painting II 1-3 Cr.**
Advanced work in oil painting; exploitation of medium for creative and expressive ends. Initial enrollment must be for 3 credits. Prerequisite: 304-509. Repeatable for credit. F-W-S
- 304-511 Sculpture I 3 Cr.**
Introduction to sculptural concepts. Prerequisite: 304-500 or equivalent. F-W

304-512 Sculpture II 1-3 Cr.

Advanced problems in sculpture; exploitation of media for creative and expressive ends. Initial enrollment must be for 3 credits. Prerequisite: 304-511. Repeatable for credit. F-W

304-513 Ceramics I 3 Cr.

Basic design and techniques of ceramic production for artist/potter; forming, firing and surface treatment. F-W-S

304-514 Ceramics II 1-3 Cr.

Use of clay, glazes and kiln for design and production of high-fired ceramics. Initial enrollment must be for three credits. Prerequisite: 304-513. Repeatable for credit. F-W-S

304-515 Art Metal I 3 Cr.

Design and construction of jewelry and objects in precious and non-precious materials with relationship to human interaction. Prerequisite: 304-101. F-W-S

304-516 Art Metal II 1-3 Cr.

Advanced problems in design and construction of jewelry, hollow forms and objects in precious and non-precious materials. Initial enrollment must be for three credits. Prerequisite: 304-515. Repeatable for credit. F-W-S

304-517 Printmaking I 3 Cr.

Introduction to the concepts and techniques of printmaking. Prerequisites: 304-100 and 304-101. F-W-S

304-518 Printmaking II 1-3 Cr.

Advanced work in the processes of relief, silkscreen, etching, or lithographic printmaking. Initial enrollment must be for three credits. Prerequisites: 304-500 and 304-517. Repeatable for credit. F-W-S

304-520 Clay and Glaze Laboratory 1 Cr.

Procedures and processes in testing of clays; formulation of clay bodies and development of clay slips and ceramic glazes for artist/potter. Prerequisite: 304-513 or 304-514 or consent of instructor.

304-522 Modern Art 3 Cr.

The main currents and developments in art from Monet and Cezanne to 1950. F

304-523 Survey of Art - Ancient through Medieval 3 Cr.

The painting, sculpture, architecture and minor arts in the ancient western world.

304-524 Survey of Art - Renaissance through 20th Century 3 Cr.

Sculpture, painting, architecture and minor arts of western world from 14th century to present.

304-525 Egyptian and Mesopotamian Art 3 Cr.

The evolution of the arts of ancient Egypt and the Near East.

304-526 Greek and Roman Art 3 Cr.

The arts of ancient Greece and Rome.

304-527 Medieval Art 3 Cr.

The arts of Europe and Byzantium from late Roman Empire to end of Middle Ages.

304-528 Italian Renaissance Art 3 Cr.

Architecture, sculpture, and painting of the Italian Renaissance from 14th to 17th century.

304-529 Northern Renaissance Art 3 Cr.

Renaissance art in Northern Europe from 15th to 17th century.

304-530 Northern Baroque Art 3 Cr.

Architecture, painting, sculpture and other art forms of 17th century northern Europe.

304-531 Southern Baroque Art 3 Cr.

Development of art in Southern Europe from Italian Renaissance to 18th century.

304-532 Economics of House Furnishing 3 Cr.

Study of consumer house furnishing problems based on utilitarian, economic, aesthetic and social values of household commodities. Quantity and quality budgets at different price levels. Visits to house furnishing markets. F

304-533 Period Furnishings 3 Cr.

A survey of furniture and furnishings in the western world. F

304-534 Fashion Illustration 3 Cr.

Problems in graphic techniques, fashion illustration, contemporary fashion design and advertising presentation. Prerequisite: 304-101. Repeatable for credit. F-W

304-545 Senior Seminar 1 Cr.

Professional practice including portfolio and senior exhibition; current ideas and career opportunities within the art profession. Prerequisite: senior standing in program. S

304-556 Advanced Art Workshop 1-3 Cr.

Selected art concepts, processes and media will vary to serve special student populations. For students familiar with workshop approach or advanced in art program. Credit determined by individual contract.

304-590 A Design Problem: Team Approach 3 Cr.

Interdisciplinary team approach to design concepts solving specific problems. Results represented by working prototype. Prerequisite: advanced level in individual students to be selected by instructor. Repeatable for credit. F-W-S

304-599 Independent Study 1-3 Cr. F-W-S**304-602 American Art 3 Cr.**

Development of visual arts in the United States from colonial period to 1950.

304-603 19th Century Art in Europe 3 Cr.

History of European art from about 1800 to 1900.

304-604 Art Since 1950 3 Cr.

Developments in painting and sculpture in Europe and America since 1950.

304-606 Oriental Art 3 Cr.

Art from prehistoric times to 19th century in China, Japan and their spheres of influence.

304-607 Aesthetics 3 Cr.

Examination of the philosophers of contending theories in art. Prerequisite: 304-522. F-W

304-699 Independent Study 1-3 Cr. F-W-S**Art Education****305-199 Independent Study 1-3 Cr. F-W-S****305-208 Pre-teaching Observation Seminar 3 Cr.**

Observation of art education teaching practices in the field; various hands-on teaching assistant duties with young children; experience with actual teaching problems through observation, team teaching and microteaching. F

305-299 Independent Study 1-3 Cr. F-W-S**305-311 Curriculum Development for Art 2 Cr.**

Needs and methods for developing a sequential K-12 art curriculum. W

305-399 Independent Study 1-3 Cr. F-W-S**305-402 Introduction to Teaching Art in Elementary Schools 3 Cr.**

Development of basic knowledge and skills needed to foster and extend creative growth in children. F-W

305-403 Introduction to Teaching Art in Secondary Schools 3 Cr.
Development of art principles and practices that expand creative growth and development in secondary school students. F-W

305-408 Student Teaching in the Elementary School - Art 4 Cr.
Directed teaching and community experience in selected off-campus elementary schools. Prerequisites: 305-402 and 305-403. F-W

305-409 Student Teaching in the Secondary School - Art 4 Cr.
Directed teaching and community experience in selected off-campus secondary schools. Prerequisites: 305-402 and 305-403. F-W

305-499 Independent Study 1-3 Cr. F-W-S

Biology

308-122 Biology - An Environmental Approach 3 Cr.
Principles of biology: cellular metabolism, heredity and relationships between living organisms and their environments. F-W-S

308-132 Physiology and Anatomy 4 Cr.
Basic concepts of physiological processes and anatomy of all organ systems of humans, based on dissection of a cat; embryological development. F-W-S

308-134 Physiology and Anatomy for Health Sciences 4 Cr.
Introductory human anatomy and physiology with emphasis on physiological mechanisms which maintain homeostasis. Student may not receive credit for both 308-134 and 308-132. F-W

308-142 Botany 4 Cr.
Introduction to structure and function of plants, survey of plant kingdom, and structure and life history of representative forms of plant life. F-W

308-150 Man and the Environment 2 Cr.
Man's relationship to world environment; contemporary problems: air and water pollution, biocides, solid waste disposal, depletion of natural resources, menace of overpopulation and impending food crisis. F-W-S

308-152 Zoology 4 Cr.
Introduction to fundamental concepts of animal life, survey of animal kingdom, structure and physiology of representative animals, evolutionary relationships. F-W

308-199 Independent Study 1-3 Cr. F-W-S

308-206 Food Service and Environmental Sanitation 1 Cr.
Microbial problems in food service industry: sanitation, storage, handling, distribution, serving, personnel, equipment and facilities. F-W

308-220 Physiology of Disabilities 3 Cr.
Etiology, pathology, clinical symptoms, prognosis, treatment, physical limitations resulting from specific diseases and disabilities. Prerequisite: 308-132. F-W

308-249 Cooperative Education Program in Liberal Studies 2-8 Cr. Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: consent of instructor or department chair. F-W-S

308-299 Independent Study 1-3 Cr. F-W-S

308-306 General Microbiology 4 Cr.
Structure and physiology of yeasts, molds and bacteria; growth requirements, methods used in culture and identification, bacterial analysis of water and milk, other problems in sanitation and food bacteriology. F-W

308-310 Human Sexual Biology 3 Cr.
Structure, function and coordination of human reproductive organ system; reproductive cell formation and function; problems of fertility, sterility, sexuality, birth control and relationship to population challenges. Prerequisite: 308-122 or 308-132. F-W

308-332 Genetics 2 Cr.
Fundamental principles of genetics, their functions and applications to plants, animals and man. F-W

308-333 Genetics Laboratory 1 Cr.
Perform genetic crosses to reinforce understanding of principles of heredity; *Drosophila* (fruit fly) will be primary experimental organism. Experience in test breeding, observing, tabulating and interpreting results, as in actual genetic research. Prerequisite: 308-332 or concurrent registration. F-W

308-342 Community Hygiene 2 Cr.
Disease prevention through education, sanitation, isolation and immunization; public health programs and operation of federal and state laws. F-W-S

308-349 Cooperative Education Program in Liberal Studies 2-8 Cr.
Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: consent of instructor or department chair. F-W-S

308-350 Ecology 3 Cr.
Interrelationships of organisms with their abiotic and biotic environments. Prerequisites: 308-122 or consent of instructor. F-W

308-352 Applied Botanical Practice 3 Cr.
Plant care, management, and propagation skills. Prerequisite: 308-142. F-W-S

308-358 Introductory Pharmacology 2 Cr.
Fundamental principles of major groups of drugs; actions and interactions in human body. (Some science background recommended). F-W

308-362 Advanced Physiology 3 Cr.
Physiological processes: digestion, respiration, metabolism, excretion, circulation and muscle. Histological studies of blood, experiments with frog and turtle hearts, nerve and muscle preparation. Respiratory, nerve, circulatory and muscle experiments on human body. Prerequisite: 308-132. F-W

308-399 Independent Study 1-3 Cr. F-W-S

308-449 Cooperative Education Program in Liberal Studies 2-8 Cr.
Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: Consent of instructor or department chair. F-W-S

308-499 Independent Study 1-3 Cr. F-W-S

308-506 Food Microbiology 3 Cr.
Methods of food preservation, their effectiveness and related food spoilage by micro-organisms. Quality control techniques used to determine presence of specific groups of economically important micro-organisms. Prerequisite: 308-306. F-W

308-599 Independent Study 1-3 Cr. F-W-S

308-650 Neuroanatomy 2 Cr.
Cross and functional anatomy of the human nervous system with emphasis on the brain and autonomic division. F

308-651 Psychobiology 2 Cr.
Biological basis of human and animal behavior: evolution of physiological and behavioral adaptations of organisms to their environment. W

308-699 Independent Study 1-3 Cr. F-W-S

Chemistry

311-115 General Chemistry 5 Cr.

Fundamental principles of chemistry: structure, compound formation, bonding, reactions, oxidation-reduction, solutions, colloids, equilibrium and acids and bases; demonstration of applications to contemporary problems, environmental effects. Special course fee. F-W-S

311-125 Principles of Chemistry for Health Sciences 5 Cr.

Principles of chemistry: general, reaction stoichiometry, equilibrium and thermodynamics. For dietetics, food service administration and other allied health science majors. Special course fee. F

311-135 College Chemistry I 5 Cr.

Principles of inorganic chemistry, properties of important elements and compounds. More rigorous approach and more extensive coverage than in 311-115. Normally followed by 311-136. Special course fee. Prerequisite: 355-120 or placement into 355-121 or above. F-W

311-136 College Chemistry II 5 Cr.

Reactions and properties of common elements and inorganic compounds; oxidation-reduction and solution equilibria; electrochemistry. Lab work in qualitative analysis for common ions. Special course fee. Prerequisite: 311-135 or 311-125 or consent of instructor. F-W

311-199 Independent Study 1-3 Cr. F-W-S

311-201 Organic Chemistry Lecture 3 Cr.

Introduction to chemistry of carbon compounds; characteristic reactions of the several functional groups; also aliphatic and aromatic compounds. Taken concurrently with 311-203. Prerequisite: 311-125 or 311-135. F-W

311-203 Organic Chemistry Laboratory 1 Cr.

Lab course to be taken concurrently with 311-201. Special course fee. F-W

311-204 Organic Chemistry II Lecture 3 Cr.

Basic organic chemistry; organic reaction mechanisms. Taken concurrently with 311-206. Prerequisite: 311-201. WO

311-206 Organic Chemistry II Laboratory 1 Cr.

Lab course to be taken concurrently with 311-204. Special course fee. Prerequisites: 311-201 and 311-203. WO

311-249 Cooperative Education Program in Liberal Studies 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: consent of instructor or department chair. F-W-S

311-299 Independent Study 1-3 Cr. F-W-S

311-349 Cooperative Education Program in Liberal Studies 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: consent of instructor or department chair. F-W-S

311-399 Independent Study 1-3 Cr. F-W-S

311-449 Cooperative Education Program in Liberal Studies 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: consent of instructor or department chair. F-W-S

311-499 Independent Study 1-3 Cr. F-W-S

311-501 Physical Chemistry Lecture 3 Cr.

Fundamental physical chemistry; behavior of gases, liquid state, properties of solutions, principles of thermodynamics, thermochemistry. Taken concurrently with 311-503. Recommended: 311-531. Prerequisites: 311-115 or 311-125 or 311-135 and 355-156. W

311-503 Physical Chemistry Laboratory 1 Cr.

Lab course to be taken concurrently with 311-501. Experimental techniques and apparatus; treatment of experimental data. Special course fee. Prerequisites: 311-115 or 311-125; or 311-135 and 355-156. Recommended 311-531. W

311-511 Biochemistry 4 Cr.

Fundamental chemistry and metabolism of carbohydrates, lipids and proteins; second- and third-order structure of proteins; chemistry of nucleic acids; nature and dynamics of enzymes and enzyme action; biological oxidations; lab work in metabolism, chromatography, enzyme action, qualitative and quantitative analytical procedures. Special course fee. Prerequisites: 308-132 and 311-201. F-W

311-515 Food Chemistry 3 Cr.

Organic biochemistry of foods: enzymatic and non-enzymatic changes associated with food preparation and storage (Maillard-Browning reaction), denaturation of protein, changes in color, odor, texture and nutritive value. Techniques for isolation and identification of biochemical constituents of foods. Special course fee. Prerequisites: 311-115 or 311-125 or 311-135; 311-201 and 311-203. W

311-531 Quantitative Analysis 3 Cr.

Introduction to the principles of quantitative chemical analysis and training in precision laboratory techniques. Special course fee. Prerequisite: 311-115 or 311-135. F

311-535 Instrumental Methods of Analysis 3 Cr.

Application of instrumental methods to chemical analysis: electrochemical, spectral; applications of common instrumental methods. Techniques for obtaining reliable results by instrumental means. Recommended: 311-531. Special course fee. Prerequisite: 311-115 or 311-125 or 311-135. W

311-541 Chemistry of Materials 3 Cr.

Practical applications of principles and facts of chemistry to technological problems: structure and properties of common materials; fuels (solid, liquid, gaseous, fossil, nuclear) and air pollution; water (domestic, industrial, sewage) and water pollution; electrical properties (cells, batteries, fuel cells, electrolysis) and corrosion of metals; protective coatings (paints, varnishes, enamels, lacquers, plating, anodizing, cladding). Special course fee. Prerequisite: 311-115 or 311-125 or 311-135. F-W

311-542 Industrial Hygiene 3 Cr.

Principles and techniques for recognizing, evaluating, and controlling existing or potential occupational health hazards that affect employee safety and health. F

311-553 Environmental Chemistry 3 Cr.

Principles and origins of chemical reactions that lead to ecological imbalance; systems that have contributed to large-scale environmental pollution and/or are of current importance; chemical technology needed to correct imbalance. Special course fee. Prerequisite: 311-115 or high school chemistry and consent of instructor. F-W

311-599 Independent Study 1-3 Cr. F-W-S

311-612 Advanced Biochemistry 3 Cr.

Molecular biology of humans and other organisms; biosynthesis and catabolism, emphasizing enzyme action; chemistry of specific tissues and fluids. Prerequisites: 311-201, 311-203 and 311-511. F-W

311-652 Hazardous Waste Management 3 Cr.

Management of hazardous wastes; compliance with governmental regulations in recognition, storage, shipping and reporting of hazardous wastes. Special course fee. Prerequisite: 311-652 or consent of instructor. W

311-699 Independent Study 1-3 Cr. F-W-S

Economics

320-199 Independent Study 1-3 Cr. F-W-S

320-201 General Economics 3 Cr.

Introduction to basic elements of economics; analysis of institutions, issues and policy; theories of price, national income and employment. Not open to students taking 320-210 and 320-215. F-W

320-210 Principles of Economics I 3 Cr.

Basic economic concepts and economic institutions, national income and employment analysis, business fluctuations, money and banking; monetary fiscal policies. Prerequisite: sophomore standing. F-W-S

320-215 Principles of Economics II 3 Cr.

Price theory, income distribution, factor pricing, market mechanisms, functions of economic system, labor and collective bargaining and international economics. Prerequisite: 320-210. F-W

320-249 Cooperative Education Program in Liberal Studies 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: consent of instructor or department chair. F-W-S

320-299 Independent Study 1-3 Cr. F-W-S

320-325 Economic and Business Statistics 3 Cr.

Method of collection, analysis, and presentation of economics, social, and business data. Ratios, frequency distributions, averages, variability, linear regression, correlation, time series analysis, and principles of index numbers. Prerequisite: 355-118. F-W

320-335 Personal Securities Investments 2 Cr.

Major aspects of security investments: common and preferred stocks, bonds, mutual funds. Prerequisite: 320-201 or 320-210.

320-349 Cooperative Education Program in Liberal Studies 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: consent of instructor or department chair. F-W-S

320-370 Comparative Economic Systems 3 Cr.

Functions of all economic systems. Theories of capitalist, communist and socialist systems, comparison of the systems in different countries. Prerequisite: 320-215.

320-380 Business and Economic Forecasting 3 Cr.

Survey of macroeconomic and microeconomic forecasting techniques, data collection and analysis. Prerequisite: 320-215 and 320-325; or 354-130; or 354-530. F-W

320-399 Independent Study 1-3 Cr. F-W-S

320-410 Microeconomics 3 Cr.

Value and distribution theory; analysis of demand-firm, industry and utility; pricing of production factors. Prerequisite: 320-215.

320-415 Macroeconomics 3 Cr.

Determination of aggregate income, employment, growth rates and price levels; monetary and fiscal policies necessary for full employment. Prerequisite: 320-215.

320-420 Labor Economics 3 Cr.

Basic labor theory; history of organized labor in western industrial societies; collective bargaining as viewed by labor, management, government and public; institutions involved in modern labor relations. Prerequisite: 320-201 or 320-210. F-W-S

320-421 Collective Bargaining and Labor Relations 2 Cr.

Introduction to collective bargaining in the United States; formation, substance and administration of a labor agreement, current labor law, role of NLRB. Prerequisites: 320-201, 320-210 or consent of instructor. F-W-S

320-425 Economic Development 3 Cr.

Social and economic factors underlying economic development. Capital formation, measurement of growth, population problems. Considers both theory and practical problems. Prerequisite: 320-215.

320-435 Money, Banking, Financial Markets 3 Cr.

Money and bank credit, modern monetary theories, monetary policy. Prerequisite: 320-201 or 320-210. F-W

320-440 Principles of Investment 3 Cr.

Principles and techniques of investment for people in business; construction and management of security portfolios. Prerequisite: 160-207. F-W

320-445 Public Finance 3 Cr.

Public finance at all governmental levels; taxation, expenditures, debt management and fiscal policy. Prerequisite: 320-215. W

320-449 Cooperative Education Program in Liberal Studies 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: consent of instructor or department chair. F-W-S

320-470 Economic Model-Building and Forecasting 3 Cr.

Quantitative models and methods applied to forecasting; regression techniques. Prerequisites: 320-215, 354-331 and 355-275 or consent of instructor. F-W

320-480 International Trade 3 Cr.

Theory and practice. Capital movements; foreign exchange rates and controls; balance of payments; tariffs. Prerequisite: 320-215. F-W

320-499 Independent Study 1-3 Cr. F-W-S

320-550 Managerial Economics 3 Cr.

Decision-making, demand and cost analysis, competitive and non-competitive price systems, marketing problems, capital budgeting and criteria for investment decisions. Prerequisite: 320-215. F-W

320-599 Independent Study 1-3 Cr. F-W-S

320-680 International Trade 3 Cr.

Theory and practice of capital movements; foreign exchange rates and controls; balance of payments; tariffs. F-W

English and Journalism

326-090 Writing Workshop 3 Cr.

Remedial writing course open to all students; especially for those who have particular writing problems and need individual instruction. Will not count toward graduation nor fulfill English requirement. F-W

326-101 Freshman English – Composition 3 Cr.

Principles and practices of writing; documented paper. Prerequisite: Acceptable score on English Department Placement Exam or a passing grade in 326-090. F-W-S

326-102 Freshman English – Reading and Related Writing 3 Cr.

Readings focused on a theme reflected in literature. Topics and approaches developed by each instructor; opportunity for responsible, independent study; requires intensive practice in composition. Prerequisite: 326-101. F-W-S

326-111 Freshman English – Honors I 3 Cr.

Readings in world literature and related writing for training in composition techniques; documented paper. Prerequisite: departmental selection based on ability. F-W

326-112 Freshman English – Honors II 3 Cr.

Continuation of 326-111. Prerequisite: 326-101 or 326-111 or departmental selection based on ability. F-W

326-199 Independent Study 1-3 Cr. F-W-S

326-203 American Poets 3 Cr.

Contemporary American writers of narrative, dramatic and lyric poetry. Prerequisite: 326-102 or 326-112. F

326-204 The Short Story 3 Cr.

Style, structure, history and development of short story as a literary form. Prerequisite: 326-102 or 326-112. F

326-249 Cooperative Education Program in Liberal Studies 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: consent of instructor or department chair. F-W-S

326-250 Classical and Biblical Literature in Translation 3 Cr.

Selections from Greek, Hebrew and Latin literature. Prerequisite: 326-102 or 326-112. F-W

326-286 Detective Fiction 3 Cr.

Literary, historical and social implications of detective fiction from its inception to the present. Includes popular writers, literary writers, non-print media and criticism. Prerequisites: 326-102 and 326-112.

326-296 Introduction to Mass Communications 3 Cr.

A survey of the mass communications field. General description of the mass media, especially newspapers, radio, television and magazines, and their roles in society. W

326-296G Drama 3 Cr.

Analysis and discussion of ideas and literacy techniques found in drama with attention to such authors as Sophocles, Ibsen, O'Neill, Shaw, Hellman. Offered for the Wisconsin in Scotland program only. Prerequisite: 326-102 or 326-112. F

326-299 Independent Study 1-3 Cr. F-W-S**326-300 Literature for Young Children 3 Cr.**

Critical survey of literature for children (birth to age 8); introduction to and directed practice of presentation methods. Prerequisite: 326-102 or 326-112. F-W

326-301 Advanced Grammar 2 Cr.

Traditional grammar and practical transformational-generative grammar for good professional writing and editing. Prerequisite: 326-101 and 326-102; or 326-111 and 326-112. F-W

326-303 The Family in Literature 3 Cr.

Literature about the family selected from several historical periods and cultures. Prerequisite: 326-102 or 326-112. F

326-306 Reporting and News Writing 3 Cr.

Theory and practice of news gathering and reporting; basic techniques of journalistic writing. Prerequisite: 326-102 or 326-112. F-W

326-310 Journalism Practicum 1 Cr.

Work on regularly published newspaper and submit articles for evaluation and publication. Prerequisite: Journalism minor or concentration. Repeatable for credit. F-W

326-320 Business Writing 3 Cr.

Effective techniques for writing persuasively in business communications: requests, cordial contact, sales and education and training programs. Prerequisite: 326-102 or 326-112. F-W

326-345 Creative Writing 3 Cr.

All aspects of imaginative writing. Prerequisites: 326-102 or 326-112 and consent of department. Repeatable for credit. F-W

326-346 Informational Writing 3 Cr.

Writing for service organizations, education, the helping professions, the humanities and social sciences. Prerequisite: 326-102 or 326-112. F-W

326-347 Critical Writing 3 Cr.

The art of evaluation and judgment; writing critical reviews and articles; documented critical paper. Prerequisite: 326-102 or 326-112. F-W

326-348 American Literature 3 Cr.

American prose and poetry from its beginnings to World War I. Prerequisite: 326-102 or 326-112. F-W-S

326-349 Cooperative Education Program in Liberal Studies 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: consent of instructor or department chair. F-W-S

326-350 Modern British Literature 3 Cr.

Selected poetry, prose, and fiction produced since World War I. Prerequisite: 326-102 or 326-112. F-W

326-351 European Literature in Translation 3 Cr.

Selected poetry, prose and drama from Dante to present. Prerequisite: 326-102 or 326-112. W

326-355 Recent World Literature 3 Cr.

Selected readings in Contemporary Literature in Translation. Prerequisites: 326-102 or 326-112.

326-360 Modern American Literature 3 Cr.

Selected poetry, prose and drama produced since World War I. Prerequisite: 326-102 or 326-112. F-W-S

326-372 Women Writers 3 Cr.

Analyze writing of prominent American and British women novelists and poets of 19th and 20th centuries; criticism of women writers. Prerequisite: 326-102 or 326-112. F

326-380 Best-Sellers 3 Cr.

Fiction and non-fiction best-sellers: expression of and impact on popular culture. Prerequisite: 326-102 or 326-112. F-W

326-381 Recent American Literature 3 Cr.

American poetry, fiction and drama since 1950. Prerequisite: 326-102 or 326-112. W

326-385 Science Fiction 3 Cr.

Critical survey of popular and classic science fiction. Prerequisite: 326-102 or 326-112.

326-399 Independent Study 1-3 Cr. F-W-S**326-400 English Literature 3 Cr.**

Selected prose and poetry from Beowulf to 1798. Prerequisite: 326-102 or 326-112. F

326-401 English Literature 3 Cr.

Selected prose and poetry from 1798 to modern times. Prerequisite: 326-102 or 326-112. W

326-402 Concepts of Literary Criticism 3 Cr.

A systematic approach to literary theory, criticism, and history. The science and art of form and structure as presented by great critics with emphasis on New Criticism. Prerequisites: 326-102 and 326-112. F-W-S

326-406 Shakespeare 3 Cr.

Several representative plays and selected criticism. Prerequisite: 326-102 or 326-112. W

326-410 Writing and Selling Feature Articles 2 Cr.

Practice in techniques of writing and selling feature articles for appropriate markets; submission of articles for potential publication. Prerequisite: 326-102 or 326-112. F

326-418 Writing On Issues 1 Cr.

Advanced writing skills developed through reading, thinking and writing about major issues. Prerequisite: 326-102. F-W-S

326-425 Copy Editing and Preparation 2 Cr.

Develop skill in expanding and reducing written materials; experience in copy reading, proofreading, headlines. W

326-449 Cooperative Education Program in Liberal Studies 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: consent of instructor or department chair. F-W-S

326-450 Studies in Literature (Theme, Author, Genre) 2-3 Cr.

Analysis and interpretation of significant genres of American folklore related to historical experience. Field-based research. Prerequisites: 326-102 or 326-112 and three credits of literature or consent of instructor. Repeatable for credit. F-W

326-468 Industrial Technology Senior English Seminar 1 Cr.

In-depth study of an internationally significant theme using literature (fiction, poetry and non-fiction) as a vehicle for developing higher level skills in reading, thinking and writing. Prerequisites: 326-102 or 326-112; and enrollment in the Industrial Technology program and approval of English adviser. F-W-S

326-499 Independent Study 1-3 Cr. F-W-S**326-500 Literature for the Reading Child and Adolescent 3 Cr.**

Critical survey of literature for children (age 8 to beginning to read adult literature); adolescent literature and media presentations of literature. Prerequisite: 326-102 or 326-112. W

326-505 American Regionalism 3 Cr.

American regional literature since 1880: the regions themselves and American perceptions of those regions. Prerequisite: 326-102 or 326-112. F-W-S

326-515 Technical Writing 3 Cr.

On-the-job writing for business and industry; reports, letters, and other documents. Prerequisites: 326-102 or 326-112 and junior standing. F-W-S

326-518 Mass Communication in American Society 3 Cr.

History, social implications and future of mass media of communications. Prerequisite: 326-102 or 326-112. F

326-535 Writing Technical Manuals 3 Cr.

Production of a technical manual – planning procedure, collecting information, analyzing audience, writing and field testing. Prerequisites: 326-101, 326-102 or 326-515 or consent of instructor. F-W-S

326-537 Technical Writing Practicum 1-3 Cr.

Plan, write and produce a technical document for a client. Principles of document design, clear writing for a specific audience, methods of determining client needs, and methods of producing the final document. Prerequisite: 326-515 or equivalent and consent of instructor. Repeatable for credit. F-W-S

326-546 Research Reporting 3 Cr.

Effective organization and presentation of individual research. Prerequisites: 326-102 and 326-112. F

326-599 Independent Study 1-3 Cr. F-W-S**French****328-100 Menu French 1 Cr.**

Pronunciation of food items and menu terms. Vocabulary comprehension. Basic phrases for haute cuisine and for ordering food in a restaurant. Reading recipes in French. F-W

328-101 Elementary French I 4 Cr.

Introduction to basic audio-lingual skills, essentials of grammar and reading for comprehension. Supplementary materials drawn from cultural heritage of France. Minimum of one laboratory hour required. F-W

328-102 Elementary French II 4 Cr.

Continuation of 328-101. A minimum of one laboratory hour required. Prerequisite: 328-101. W

328-199 Independent Study 1-3 Cr. F-W-S**328-201 Intermediate French I 4 Cr.**

Grammar review, vocabulary improvement, oral practice, original composition, and readings that stress French civilization and literature. Minimum of one laboratory hour required. Prerequisite: 328-102 or two years of high school French. F

328-202 Intermediate French II 4 Cr.

Continuation of 328-201. Minimum of one laboratory hour required. Prerequisite: 328-201. W

328-299 Independent Study 1-3 Cr. F-W-S**328-399 Independent Study 1-3 Cr. F-W-S****328-499 Independent Study 1-3 Cr. F-W-S****Spanish****329-103 Elementary Spanish I 4 Cr.**

Introduction to conversational Spanish as spoken today in Mexico and South America. F

329-104 Elementary Spanish II 4 Cr.

Continuation of 329-103. Conversational Spanish as spoken today in Mexico and South America. Prerequisite: 329-103. W

329-121 Practical Spanish I 2 Cr.

Pronunciation, basic phrases for everyday situations, comprehension of short written and spoken sentences, basic grammar summary, introductory vocabulary with program-specific modules, cross-cultural topics. Not open to students who have completed Spanish 103. F-W-S

329-122 Practical Spanish II 2 Cr.

Elementary vocabulary, conversational phrases, hispanic culture, present and past tense verbs, object pronouns, choice of career-related language supplements. Not open to students who have completed Spanish 103. Prerequisite: 329-121 or one semester of high school Spanish. F-W

329-199 Independent Study 1-3 Cr. F-W-S**329-201 Intermediate Spanish I 4 Cr.**

Extensive development of vocabulary including common idioms, aural comprehension, correct pronunciation, recognition of verb tenses in written Spanish. Readings based on contemporary life in Hispanic countries. Listening practice with authentic recorded materials. Prerequisites: 329-104 or two years of high school Spanish. F

329-202 Intermediate Spanish II 4 Cr.

Complete grammar review of standard Spanish, applicable to both conversational situations and business or personal correspondence. Review of essential vocabulary and phrases. Accuracy and fluency in spontaneous conversation and free composition. Prerequisite: 329-201 or three years of high school Spanish. W

329-299 Independent Study 1-3 Cr. F-W-S**329-399 Independent Study 1-3 Cr. F-W-S****329-499 Independent Study 1-3 Cr. F-W-S****Chinese****330-X99 Independent Study 1-3 Cr. F-W-S****330-121 Mandarin Chinese IA 2 Cr.**

Basic Chinese vocabulary and conversational phrases. Accuracy and fluency in guided conversation. Emphasis on correct pronunciation. Written materials use Romanized alphabet. F

330-122 Mandarin Chinese IB 2 Cr.

(Continuation of introduction to spoken Mandarin Chinese.) Vocabulary and conversational phrases. Accuracy and fluency in guided conversation. Brief exposure to written characters. Prerequisite: 330-121 or consent of course coordinator. F

330-123 Mandarin Chinese 1C 2 Cr.

Spoken Chinese vocabulary and sentence patterns. Sentence types whose word order differs significantly from English: questions, locations, going and coming. Written materials use pinyin Romanization. Extensive use of audio cassettes outside class. Emphasis on correct pronunciation and tones. Prerequisite: 330-122. W

330-124 Mandarin Chinese 1D 2 Cr.

Spoken Chinese vocabulary and sentence patterns. Comparisons, time words, narration of past events. Extensive use of audio cassettes outside class. Written materials use Romanized alphabet. Recognition of some characters, introduction to writing methodology. Prerequisite: 330-123. W

330-201 Third Semester Mandarin Chinese 4 Cr.

Spoken Mandarin Chinese vocabulary and sentence patterns. Emphasis, comparisons of equality, coverbs, resultative verbs, directional postverbs. Most materials in pinyin Romanization, with introduction of sentences in characters. Extensive audio cassette work outside class. Prerequisite: 330-124. F

330-202 Fourth Semester Mandarin Chinese 4 Cr.

Completion of study of basic sentence patterns. Emphasis on spoken Mandarin Chinese; students also learn to write simple sentences in characters. Textbook materials use both pinyin Romanization and characters. Extensive use of audio cassettes outside class. Prerequisite: 330-201. W

Geography**336-104 World Geography 3 Cr.**

Introduction to regional and cultural geography of the world; physical and human resources of major areas of the globe. F-W

336-199 Independent Study 1-3 Cr. F-W-S**336-249 Cooperative Education Program in Liberal Studies 2-8 Cr.**

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: Consent of instructor or department chair. F-W-S

336-299 Independent Study 1-3 Cr. F-W-S**336-349 Cooperative Education Program in Liberal Studies 2-8 Cr.**

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: Consent of instructor or department chair. F-W-S

336-399 Independent Study 1-3 Cr. F-W-S**336-449 Cooperative Education Program in Liberal Studies 2-8 Cr.**

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: Consent of instructor or department chair. F-W-S

336-499 Independent Study 1-3 Cr. F-W-S**History****338-120 Early U.S. History 3 Cr.**

U.S. history to 1865: political, economic and social forces that have shaped the nation to close of Civil War. F-W-S

338-121 Modern U.S. History 3 Cr.

U.S. history since 1865: political, economic and social forces that have shaped the nation since close of Civil War. F-W-S

338-140 Western Civilization 3 Cr.

Survey of Western civilization along the Nile, the Fertile Crescent, through Greece, Rome, the Middle Ages, the Renaissance, and the Reformation. F

338-141 Western Civilization 3 Cr.

Survey of Western civilization from Reformation to present. W

338-199 Independent Study 1-3 Cr. F-W-S**338-210 Modern World 3 Cr.**

Modern trends in terms of historical backgrounds as frame of reference for interpreting modern world. F-W-S

338-249 Cooperative Education Program in Liberal Studies 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: consent of instructor or department chair. F-W-S

338-299 Independent Study 1-3 Cr. F-W-S**338-315 History of East-Central Europe 3 Cr.**

History, geography and culture of East-Central Europe, primarily Poland, Czechoslovakia and Hungary. W

338-320 History of Russia 3 Cr.

Survey of Russia's historical development since 862. F

338-325 Recent History of the United States 2 Cr.

U.S. history in 20th century; recent world developments in which United States has played a part.

338-330 History of World War II 3 Cr.

Causes, conduct and effects of World War II. F-W

338-340 English History 3 Cr.

Social, political, religious, military and economic history of Great Britain from Restoration (1660) to modern times.

338-349 Cooperative Education Program in Liberal Studies 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: consent of instructor or department chair. F-W-S

338-360 Asian History 3 Cr.

Survey of political, social, religious and economic history of Asia, India, China, Japan and the Philippines in modern world. W

338-380 Latin American History 3 Cr.

Political, social and economic history of Middle and South America, pre-Columbian to present. W

338-399 Independent Study 1-3 Cr. F-W-S**338-410 Biography of World Leaders 2-3 Cr.**

Readings in biographies and autobiographies of modern world leaders.

338-430 Western U.S. History 3 Cr.

Development of trans-Mississippi West in 19th century: exploration, missionaries, settlement, fur trade, Indian problems, slavery, admission of new states, mining and cattle industries, agriculture, transportation, communication, culture and land policies.

338-449 Cooperative Education Program in Liberal Studies 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: consent of instructor and department chair. F-W-S

338-499 Independent Study 1-3 Cr. F-W-S

Applied Mathematics

354-X98 Computer Science Field Experience 2 Cr.

Off-campus work and study in approved position to better understand challenges and potentials of various careers related to computers. F-W

354-130 Elementary Statistics 2 Cr.

Organization and presentation of data, computation of descriptive statistics, regression and correlation theory and computation; elementary sampling theory; introduction to normal and binomial distributions, tests of hypotheses. One year of high school algebra is desirable. F-W-S

354-140 Computer Concepts 2 Cr.

Introduction to computing; history of computers, hardware, software and terminology; components and functions of computers; programming concepts and basic applications; running programs written by others; writing programs in BASIC time-sharing language. F-W-S

354-141 Computer Programming – BASIC 2 Cr.

Beginning computer programming using basic: input, output, flow of control, arrays, files, and subprograms. F-W-S

354-142 Computer Applications in Business 4 Cr.

Basic characteristics of business data processing systems, especially computers; hardware and software concepts, data flow and systems design and introduction to business-oriented programming. Not open to those with credit in 300-101. W

354-144 Computer Science I 3 Cr.

Problem-solving and algorithm development using a high-level programming language. Computer organization, programming language and programming, elements of programming style, documentation, introduction to structured programming. F-W

354-145 Computer Science II 3 Cr.

Problem-solving and algorithm development using a high-level language. Structured programming concepts, debugging and testing, string processing, searching and sorting, elementary data structures, recursion and files. Prerequisite: 354-144. W

354-199 Independent Study 1-3 Cr. F-W-S

354-240 FORTRAN Programming 3 Cr.

FORTRAN programming language and its use in scientific and engineering applications. Prerequisite: 354-141. W

354-241 Assembly Language Programming 3 Cr.

Basic concepts in computer systems including computer structure, machine language, assembly languages, addressing techniques, macros, file I/O, program segmentation and linkage. Prerequisites: 354-145 or 354-240 or equivalent. F-W

354-246 Computer Programming – COBOL 3 Cr.

Introduction to computer systems and their use; development of programming practices and techniques, flowcharting and application through business-oriented translating language. Prerequisite: 354-141. F-W

354-299 Independent Study 1-3 Cr. F-W-S

354-330 Introduction to Probability and Statistics 4 Cr.

Exploratory data analysis: basic probability, probability distributions, mathematical expectation; basic statistical inference, sampling distributions, estimation; linear models and designed experiments; reliability and quality control. Prerequisite: 355-154 or 355-157. F-W

354-331 Probability and Mathematical Statistics I 3 Cr.

Sets and combinatorial analysis, probability in discrete sample spaces, Bayes' rule, random variables and probability distributions, change of variable, marginal and conditional distributions, expectation, moments and moment generating functions. Chebyshev's theorem, central limit theorem. Prerequisite: 355-153 or 355-156. F

354-332 Probability and Mathematical Statistics II 3 Cr.

Sampling distributions, order statistics, introduction to decision theory, estimation, hypothesis testing, non-parametric methods, regression and correlation, analysis of variance. Prerequisite: 355-154 or 355-157 and 354-331. W

354-341 Data Structures 3 Cr.

Review of set theory, functions and relations; basic concepts of data; lists, strings and arrays; representation of graphs and trees; storage systems and structures; symbol tables and searching techniques; sorting (ordering) techniques. Prerequisites: 354-240, 355-275 and 110-556. F-W

354-343 Mathematical Foundations of Computer Graphics 3 Cr.

Fundamental hardware, software, mathematics, data structures and algorithms for computer graphics. Prerequisite: 354-241, 354-341, 355-158 and 355-275. F-W

354-399 Independent Study 1-3 Cr. F-W-S

354-441 Computer Organization 3 Cr.

Hierarchical organization of a computer system: CPU, memory, I/O modules. Detailed analysis of the CPU and control unit implementation. Prerequisites: 354-342 and 354-341; or concurrent enrollment in 354-341. F

354-442 Systems Programming 3 Cr.

Design, organization and case studies of major systems software: assemblers, loaders, linkers, macroprocessors, compilers and operating systems. Relationship between machine architecture and system software. Prerequisite: 354-441. W

354-446 Numerical Analysis I 3 Cr.

Theory and applications of numerical methods for linear algebra, non-linear equations and polynomial interpolation. Prerequisites: 355-158, 355-275, 354-145 or 354-240 or equivalent. F

354-447 Numerical Analysis II 3 Cr.

Theory and applications of numerical methods for approximation, numerical integration and differentiation, differential equations, and Fourier analysis. Prerequisites: 354-446 and 355-255. W

354-448 Software Engineering 3 Cr.

Software development lifecycle, programming languages and environments, program testing, documentation, software management and organization. Class software development project. Prerequisites: 354-341, 354-145 or consent of instructor. F-W

354-475 Applied Mathematics Internship 2-8 Cr.

Off-campus work and study in approved position to gain experience in using computer and/or statistical techniques in the analysis and solution of real-world problems. Interns receive salaried appointments with cooperating companies for summer or summer plus one semester. F-W-S

354-490 Mathematical Models I 2 Cr.

Supervised experiences in construction of mathematical models for the solution of problems in area of student's needs and interests; resource materials. Prerequisite: senior standing in Applied Mathematics. F

354-491 Mathematical Models II 2 Cr.

Continuation of 354-490. Prerequisite: 354-490. W

354-499 Independent Study 1-3 Cr. F-W-S

354-530 Statistical Methods 3 Cr.

Histograms, mean and standard deviation, combinatorics, probability; binomial, hypergeometric, normal, chi-square, T and F distributions and their uses; statistical inference; contingency tables, linear models, analysis of variance with appropriate applications. Prerequisite: 355-120 and three years of high school math. F-W

354-531 Design of Experiments I 2 Cr.

Linear and curvilinear regression, single-factor designs, confidence ellipsoids for means, blocking, Latin and other squares, factorial designs. Prerequisite: 354-332. F

354-532 Design of Experiments II 2 Cr.

Fixed-effect, random-effect and mixed models; nested and nested-factorial designs, split-plot designs, confounding in blocks, analysis of covariance, response surfaces, sequential analysis. Prerequisite: 354-531. W

354-535 Applied Stochastic Processes I 2 Cr.

Stochastic processes, Markov chains, stationary distributions, construction of Markov processes, Poisson and birth and death processes, review of statistical inference as applied to these processes. Prerequisites: 354-332 or 354-530. F

354-536 Applied Stochastic Processes II 2 Cr.

Application of topics introduced in 354-535: theory of reliability; branching, social and behavioral, and queueing processes. Prerequisite: 354-535. W

354-590 Topics 1-3 Cr.

Topics of current importance in applications of mathematics to problems in business, industry, government or society. May be repeated for additional credit with consent of program director. F-W-S

354-599 Independent Study 1-3 Cr. F-W-S**354-640 Computer Use in Education 3 Cr.**

Computer use in administrative, research and instructional aspects of education. S

354-699 Independent Study 1-3 Cr. F-W-S

Mathematics

355-010 Fundamentals of Algebra 2 Cr.

Review of fundamental principles of elementary algebra. Credit earned for Mathematics 010 will not count toward graduation. F-W

355-118 Concepts of Mathematics 4 Cr.

Elementary concepts in mathematical language and reasoning, sets, number systems and theory, algebraic equations, statistics and probability, geometry, computers; historical survey. Prerequisite: minimum of one year high school algebra. F-W-SE

355-119 Business Mathematics 4 Cr.

Review of arithmetic and basic algebra; simple and compound interest, inventory control and purchase planning; applications to retailing, marketing, accounting, finance, consumerism and insurance. F-W-SO

355-120 Introductory College Mathematics I 4 Cr.

Set theory, logic and methods of proof, number systems and equations, use of time-shared computer, vectors, matrices and inequalities. Prerequisite: demonstrated proficiency. F-W-S

355-121 Introductory College Mathematics II 4 Cr.

Open sentences; relations and functions; algebra of trigonometric, exponential and logarithmic functions. Prerequisite: 355-120. F-W-S

355-123 Finite Mathematics With Applications 4 Cr.

Real number system, systems of linear equations and inequalities, sets, functions, vectors, matrices, probability, linear programming, theory of games, Markov chains. Prerequisite: 355-120 or demonstrated proficiency.

355-152 Calculus for Management and the Social Sciences 4 Cr.

Basic concepts of calculus with applications in the managerial and social sciences. Prerequisites: 355-123. This course is not equivalent to 355-153 Calculus I nor is it a suitable prerequisite for 355-154 Calculus II. F-W

355-153 Calculus I 4 Cr.

Functions, limits, continuity, bounds, sets; the derivative of functions and applications; exponential, logarithmic, trigonometric and inverse functions. Not open to those with credit in 355-154, 355-156, 355-157 or 355-158. Prerequisite: 355-121. F-W-S

355-154 Calculus II 4 Cr.

Continuation of 355-153: antiderivatives; integration theory and techniques, applications; parametric equations, vectors. Prerequisite: 355-153. F-W

355-156 Calculus and Analytic Geometry I 5 Cr.

Review of real numbers, inequalities, absolute values, intervals and continuity; analytic geometry of the plane, limit concepts, derivatives of algebraic functions, definite integral. Not open to those with credit in 355-153, 355-154 or 355-157. Prerequisite: demonstrated proficiency. F-W

355-157 Calculus and Analytic Geometry II 5 Cr.

Application of derivative and definite integral; conic sections and other algebraic curves; calculus for rational, algebraic, circular, exponential and trigonometric functions; formal integration. Prerequisite: 355-156. F-W

355-158 Calculus III 3 Cr.

Formal integration continued; parametric equations, polar representation, Cauchy's formula, Taylor's theorem, infinite series, vectors, partial differentiation, multiple integration. Prerequisite: 355-154 or 355-157. F-W

355-199 Independent Study 1-3 Cr. F-W-S**355-249 Cooperative Education Program in Liberal Studies 2-8 Cr.**

Work and study in an approved position to gain business/industrial/other experience. Normally entailing recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: consent of instructor or department chair. F-W-S

355-255 Differential Equations 3 Cr.

Common types of ordinary differential equations of first and second order; linear equations with constant coefficients; series solutions, numerical approximations, systems of ordinary equations. Prerequisites: 355-154 or 355-157 and 354-141. F-W

355-262 Modern Geometry 3 Cr.

Development of logical discourse, betweenness properties and plane separation, geometric models of axiomatic systems, modern geometry of triangle and circle, transformations (linear, circular), orthogonal systems of circles, elliptic and hyperbolic geometry. Prerequisite: 355-153 or 355-156. WO

355-275 Linear Algebra 3 Cr.

Algebra of linear transformations and matrices. Determinants, equivalence relations, rank systems of equations, vector spaces, orthogonal transformations, characteristic equations and quadratic forms. Prerequisite: 355-153 or 355-156. F-W

355-299 Independent Study 1-3 Cr. F-W-S**355-349 Cooperative Education Program in Liberal Studies 2-8 Cr.**

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: consent of instructor or department chair. F-W-S

355-350 Vector Analysis 3 Cr.

Basic theory of vectors. Vector differential calculus and vector integral calculus of two and three dimensions with applications. Prerequisite: 355-158. F-W

355-370 Modern Algebra I 3 Cr.

Set theory, mappings, equivalence relations and classes, mathematical induction, Peano's postulates, isomorphisms; development of natural numbers, integers, rational, and real numbers; introduction to integral domains and rings. Prerequisite: 355-154 or 355-157. F

355-371 Modern Algebra II 3 Cr.

Continuation of 355-370; rings, integral domains, fields, polynomials, groups, vector spaces; introduction to algebra of matrices. Prerequisite: 355-370. W

355-399 Independent Study 1-3 Cr. F-W-S**355-449 Cooperative Education Program In Liberal Studies 8 Cr.**

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: consent of instructor or department chair. F-W-S

355-450 Real Analysis I 3 Cr.

Rigorous development of advanced topics in analysis; functions, real numbers, sequences, Cartesian spaces, sequences of functions, limit superior and inferior, continuous functions. Prerequisite: 355-154 or 355-157. F

355-451 Real Analysis II 3 Cr.

Continuation of 355-450; differentiation, integration, infinite series. Prerequisite: 355-450. W

355-460 Complex Variables With Applications 3 Cr.

Complex numbers, analytic functions, elementary functions of complex variables, mapping of elementary functions, integration techniques, power series and calculus of residues. Prerequisite: 355-255. WE

355-499 Independent Study 1-3 Cr. F-W-S**Music****360-101 Class Piano I 1 Cr.**

Group instruction in piano technique and repertoire at beginner level. One 1-hour lesson per week; additional practice time required. F-W

360-102 Class Voice I 1 Cr.

Group instruction in vocal technique and repertoire; small ensemble performance. Optional recital. Repeatable for credit. F-W

360-103 Class Guitar I 1 Cr.

Group instruction in guitar technique and repertoire at beginner level. One 1-hour lesson per week; additional practice time required. F-W

360-111 Advanced Piano I 1 Cr.

Private instruction in piano technique and repertoire. One 1/2-hour lesson per week; additional practice time required; optional recital. F-W

360-112 Advanced Voice I 1 Cr.

Private instruction in vocal technique and repertoire. One 1/2-hour lesson per week; additional practice time required; optional recital. F-W

360-130 Music Appreciation 2 Cr.

Music materials as they pertain to perceptive listening; music and musicians from medieval times to present; students gain significant awareness of great music. F-W-S

360-199 Independent Study 1-3 Cr. F-W-S**360-201 Class Piano II 1 Cr.**

Continuation of 360-101 at intermediate level. One 1-hour lesson per week; additional practice time required. F-W

360-203 Class Guitar II 1 Cr.

Continuation of 360-103 at intermediate level. One 1-hour lesson per week; additional practice time required. F-W

360-204 Music for the Young Child 3 Cr.

Music fundamentals; individual and group instruction and performance on Orff instruments and autoharp; repertoire for preschool classroom music. F-W

360-211 Advanced Piano II 1 Cr.

Continuation of 360-111. F-W

360-212 Advanced Voice II 1 Cr.

Continuation of 360-112. F-W

360-249 Cooperative Education Program in Liberal Studies 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entailing recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: consent of instructor or department chair. F-W-S

360-264 Stage Band 1 Cr.

Study and perform music of the large dance band. Open to any qualified Stout student, by audition only. Repeatable for credit. F-W

360-265 College Choir 1 Cr.

Advanced choral techniques, reading and analysis of choral music of all types and periods. Concert and radio appearances. Repeatable for credit. F-W

360-266 Stout Concert Band 1 Cr.

Fundamentals of musical expression, tone production and quality, and special problems of technique. Membership by audition only. Repeatable for credit. F-W

360-267 Stout Symphonic Singers 1 Cr.

Advanced choral techniques, reading and analysis of choral music of all types and periods. Membership by audition only. Repeatable for credit. F-W

360-268 Solo and Ensemble 1 Cr.

Coaching of advanced vocal and instrumental performers for public performance. Repeatable for credit. F-W

360-269 Chamber Singers 1 Cr.

Study and performance of music for small vocal ensemble; repertoire is balanced selection from all major stylistic periods. Repeatable for credit. F-W

360-270 Vocal Jazz Ensemble 1 Cr.

Performance of vocal jazz in a select choral ensemble. Membership by audition only. Special Consideration: Repeatable for credit with new music each semester. Students selected by instructor.

360-299 Independent Study 1-3 Cr. F-W-S**360-303 Class Guitar III 1 Cr.**

Continuation of 360-203. F-W

360-311 Advanced Piano III 1 Cr.

Continuation of 360-211. Repeatable for credit. F-W

360-312 Advanced Voice III 1 Cr.

Continuation of 360-212. Repeatable for credit. F-W

360-349 Cooperative Education Program in Liberal Studies 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: consent of instructor or department chair. F-W-S

360-399 Independent Study 1-3 Cr. F-W-S**360-449 Cooperative Education Program in Liberal Studies 2-8 Cr.**

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: consent of instructor or department chair. F-W-S

360-499 Independent Study 1-3 Cr. F-W-S**Philosophy****365-199 Independent Study 1-3 Cr. F-W-S****365-201 Introduction to Philosophy 3 Cr.**

Introduction to the principal problem areas and history of philosophy, as well as to the nature of philosophical investigation. F-W

365-299 Independent Study 1-3 Cr. F-W-S**365-301 Introduction to Logic 3 Cr.**

Problem-solving strategies based on induction and on categorical and propositional deduction. F-W

365-305 Philosophy of Religion 3 Cr.

Principal philosophical problems in the various dimensions of religious experience and belief. F

365-315 Eastern Philosophy 3 Cr.

Philosophies of India, China and Japan: Hinduism, Buddhism, Confucianism, Taoism and Zen Buddhism. Prerequisite: sophomore standing. W

365-325 Existentialist Philosophers 3 Cr.

Impact of major existentialist philosophers on contemporary thought and values.

365-375 Personal and Professional Ethics 3 Cr.

Ethical valuing process and major ethical standards applied to personal and professional life. F-W

365-399 Independent Study 1-3 Cr. F-W-S**365-499 Independent Study 1-3 Cr. F-W-S****365-599 Independent Study 1-3 Cr. F-W-S****Physical Education****366-101 Health Survey 1 Cr.**

Relationship of personal health to the whole person; to develop an awareness of high level wellness and how life style relates to health. F-W

366-102 Personal Health 2 Cr.

Prevention and care of significant physiological and sociological effects of selected personal health problems in our society. F-W

366-199 Independent Study 1-3 Cr. F-W-S**366-249 Cooperative Education Program in Liberal Studies 2-8 Cr.**

Work and study in an approved position to gain business/industrial/other experience. Normally entailing recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: Consent of instructor or department chair. F-W-S

366-299 Independent Study 1-3 Cr. F-W-S**366-340 ARC Standard First Aid and Personal Safety 2 Cr.**

American Red Cross certification in Standard First Aid and Personal Safety; increase personal safety and accident-prevention knowledge; learn to administer emergency first aid to self or others. F-W-S

366-346 ARC Cardiopulmonary Resuscitation .5 Cr.

Techniques of basic life support: recognizing respiratory and/or cardiac arrest and properly administering cardiopulmonary resuscitation (CPR) to maintain life. Successful completion results in 1-year certification in ARC Basic Life Support course in CPR. F-W-S

366-349 Cooperative Education Program in Liberal Studies 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: Consent of instructor or department chair. F-W-S

366-350 Prevention and Care of Athletic Injuries 2 Cr.

Provides prospective physical education and/or coaching professional with basic understanding of prevention, treatment and care of athletic injuries. Prerequisite: 366-340. F

366-355 Kinesiology 3 Cr.

Body movements and principles affecting them. Prerequisite: 308-132. F

366-365 Physiology of Exercise 3 Cr.

Effects of exercise on sports participants: heat stress, body composition, nutrition, cardiovascular function, energy expenditure, respiratory mechanics and ventilation factors. Prerequisite: 308-132. W

366-399 Independent Study 1-3 Cr. F-W-S

366-449 Cooperative Education Program in Liberal Studies 2-8 Cr. Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: Consent of instructor or department chair. F-W-S

366-490 Athletic Training Practicum 2 Cr.

Practical application of training principles: prevention and care of athletic injuries, facilities direction, and program management. Prerequisites: 308-132 or 308-134, 366-340, 366-350. F-W

366-499 Independent Study 1-3 Cr. F-W-S**367-101 Aerobic Dance .5 Cr.**

Developing fitness through aerobic dance. F-W

367-103 Archery – Beginning .5 Cr. F-W**367-105 Bow Hunting 1 Cr.**

Conservation, safety, selection and care of equipment; techniques and practical bow hunting experience. Special course fee. Prerequisite: 367-103. F

367-107 Badminton .5 Cr. F-W**367-109 Basketball .5 Cr. Repeatable for credit. W****367-110 Bicycling 1 Cr.**

Bicycling for health and fitness: safety, technique and knowledge. F-W

367-113 Bowling .5 Cr. Special course fee. F-W**367-115 Canoe Techniques 1 Cr. Special course fee. F-W****367-121 Exercise and Fitness 1 Cr. F-W-S****367-126 Football .5 Cr. Repeatable for credit. F****367-130 Golf – Beginning .5 Cr. Special course fee. F-W****367-131 Golf – Intermediate .5 Cr.**

Special course fee. Repeatable for credit. F-W

367-132 Horseback Riding – Beginning Western .5 Cr.

Western horsemanship: basic body position and control at the walk, trot and lope. Special course fee. F-W

367-133 Horseback Riding – Beginning English .5 Cr.

Special course fee. F-W

367-134 Horseback Riding – Intermediate English .5 Cr.

English riding skills: serpentines and figure eights at advanced gaits, simple lead changes, side pass and turns on the forehand and haunches. Special course fee. Prerequisite: 367-133. F-W

367-135 Jogging .5 Cr.

The philosophy, principles and skills of jogging as an exercise and health program. F-W

367-136 Karate .5 Cr. F-W**367-142 Outdoor Skills 1 Cr. Special course fee. F-W****367-144 Personal Defense 1 Cr.**

Development of physical fitness for defense consciousness; techniques of initial and basic defense skills in weapon and rape attacks. F-W-S

367-146 Racquetball – Beginning .5 Cr. Special course fee. F-W**367-147 Racquetball – Intermediate .5 Cr. F-W****367-148 Relaxation .5 Cr. F-W****367-152 Skiing .5 Cr. Special course fee. W****367-153 Skiing – Cross Country 1 Cr.**

Selection of equipment, waxing; flatland, uphill and downhill techniques and touring experiences in Nordic skills. Special course fee. W

367-154 Social Dance .5 Cr. F-W

- 367-159 Softball .5 Cr.** Repeatable for credit. *F*
- 367-163 Swimming – Beginning .5 Cr.** *F-W*
- 367-164 Swimming – Advanced Beginning .5 Cr.** *F-W*
- 367-165 Swimming – Intermediate .5 Cr.** *F-W*
- 367-172 Water Games .5 Cr.**
- 367-173 Skin and Scuba Diving 1 Cr.** Special course fee. *F-W-S*
- 367-176 Tennis – Beginning .5 Cr.** *F-W-S*
- 367-178 Tennis – Intermediate .5 Cr.** Repeatable for credit. *F-W-S*
- 367-180 Track and Field .5 Cr.** Repeatable for credit. *W*
- 367-182 Tumbling 1 Cr.**
Lab course to develop tumbling skills: forward, backward and sideways rotational, springing and vaulting movements from hands and feet; basic to advanced aerial tumbling. *W*
- 367-185 Volleyball .5 Cr.** Repeatable for credit. *F-W*
- 367-187 Weight Training 1 Cr.** *F-W-S*
- 367-189 Wrestling .5 Cr.** Repeatable for credit. *W*
- 367-199 Independent Study 1-3 Cr.** *F-W-S*
- 367-241 Advanced Lifesaving 1 Cr.**
Red Cross training program in knowledge and skills needed to save one's own or another's life in an emergency. Prerequisite: ARC swimmers level. *F*
- 367-260 Golf 1 Cr.**
Fundamental principles of golf; skills, history, etiquette and application of techniques. Required: play 27 holes of golf, pay greens fees, furnish 3 golf balls for class use. Special course fee. *F-W-S*
- 367-265 Physical Activities for Preschool Children 2 Cr.**
Sequential development of physical perceptual skills in children, birth to age 5; perceptual motor activities that promote development. *F-W*
- 367-299 Independent Study 1-3 Cr.** *F-W-S*
- 367-340 Camp Leadership 2 Cr.**
Role of camp counselors in relation to objectives, organization, guidance, leadership skills and program resources in organized camps; practice in camp-craft skills. *W*
- 367-342 Water Safety Instructor 2 Cr.**
ARC training course. Teaching and testing of swimming, lifesaving skills and knowledge of water safety; theoretical and practical knowledge and assistance in teaching of Red Cross lifesaving and water safety courses. Prerequisite: 367-241. *W*
- 367-345 Basketball Officiating 1 Cr.**
Rules and officiating techniques for men's and women's basketball; preparation for DGWS and/or WIAA officiating certifications. *F*
- 367-346 Football Officiating 1 Cr.**
Application of football officiating rules and techniques. Prerequisite: consent of instructor. *F*
- 367-347 Wrestling Officiating 1 Cr.**
Rules and techniques of wrestling officiating. *F*
- 367-350 Principles of Physical Education and Athletics 2 Cr.**
Principles of physical education based on scientific facts and educational ideals; aims and objectives of physical education at various school levels. *W*
- 367-360 Problems in Athletics 2 Cr.**
Identification, interpretation and discovery of solutions for problem areas in athletics: human relationships, intellectual strategies, competitive unity, sex discrimination and sport characteristics. *WE*
- 367-399 Independent Study 1-3 Cr.** *F-W-S*
- 367-401 Coaching Gymnastics 2 Cr.**
Elements of gymnastic tumbling and use of gymnastic apparatus as part of a modern physical education program. *FO*
- 367-450 Organization/Administration of Physical Education 2 Cr.**
Everyday problems encountered by physical education instructors, relationship of physical education to general education, objectives of physical education; utilization, planning and care of facilities and equipment; time allotment, classification of activities and children, leadership, organization, supervision, routine procedures. *FO*
- 367-460 Coaching Basketball 2 Cr.**
Fundamentals and methods of teaching and coaching basketball, definite plan of offense and defense, selected techniques analyzed, rules and practice schedules, theories and their applications. *WO*
- 367-461 Coaching Football 2 Cr.**
Fundamentals and methods of teaching and coaching football, definite plan of offense and defense, selected techniques analyzed, rules and practice schedules, theories and their applications. *FO*
- 367-465 Coaching Competitive Swimming 2 Cr.**
Principles and techniques of coaching competitive swimming. Prerequisite: WSI or one year of competitive swimming. *WO*
- 367-470 Coaching Baseball 2 Cr.**
Fundamentals and methods of teaching and coaching baseball, definite plan of offense and defense, selected techniques analyzed, rules and practice schedules, theories and their applications. *W*
- 367-471 Coaching Track and Field 2 Cr.**
Fundamentals and methods of teaching and coaching track and field, selected techniques analyzed, rules and practice schedules, theories and their applications. *W*
- 367-478 Coaching and Officiating Volleyball 2 Cr.**
Skills and techniques of coaching and officiating competitive volleyball. Prerequisite: 367-185 or one year competitive volleyball. *FE*
- 367-479 Coaching Wrestling 2 Cr.**
Philosophies and methods of teaching and coaching wrestling skills; organization and administration of competitive wrestling programs; and theories of wrestling coaching strategies. *F*
- 367-480 Coaching Youth Athletes 2 Cr.**
Coaching strategies for organized non-varsity youth sports programs – philosophy, psychology, physiology, pedagogy, prevention and care of injuries, and legalities. *F-W-S*
- 367-490 Practicum in Coaching 1-3 Cr.**
On- or off-campus work and study in athletic coaching with competitive teams. Prerequisite: completion of coaching course in area of practicum. *F-W*
- 367-499 Independent Study 1-3 Cr.** *F-W-S*
- ## Physics
- 372-199 Independent Study 1-3 Cr.** *F-W-S*
- 372-211 Introduction to Physics 3 Cr.**
Introduction to principles of physics, including mechanics, fluids, heat and thermodynamics, light and sound, electricity and magnetism; their applications to specific technologies. Prerequisite: 355-120. *F*

372-212 Introduction to Physics: Lab 1 Cr.

Measurement, analysis and presentation of laboratory data on basic physics concepts, including mechanics, fluids, heat, electricity, light and sound. Special course fee. Prerequisite: 372-211. F-W-S

372-222 Heat and Thermodynamics 2 Cr.

Concepts of temperature and heat, temperature-dependent properties and processes, heat transfer; laws relating heat and other forms of energy. Prerequisite: 372-221. F-W-S

372-231 General Physics I 4 Cr.

Algebra- and Trigonometry-based general physics course: mechanics and sound with laboratory. Special course fee. Prerequisites: 355-121 and a math pretest. F-W-S

372-232 General Physics II 4 Cr.

Algebra- and Trigonometry-based general physics course: electricity and light with laboratory. Special course fee. Prerequisite: 372-231. F-W-S

372-241 College Physics I 5 Cr.

Calculus-based general physics course: mechanics and thermodynamics with laboratory. Special course fee. Prerequisites: 355-153 or 355-156 and a math pretest. F-W-S

372-242 College Physics II 5 Cr.

Calculus-based general physics course: electricity, sound, light and selected topics in modern physics with laboratory. Special course fee. Prerequisite: 372-241. F-W-S

372-249 Cooperative Education Program in Liberal Studies 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: consent of instructor or department chair. F-W-S

372-251 Topics in Astronomy 1 Cr.

Qualitative analysis emphasizing physical principles of selected topics in astronomy. Significance of modern methods of obtaining astronomical information. F

372-252 Laser Light and Waves 1 Cr.

Wave properties of laser light; interference and diffraction as general properties of waves; importance of interference and diffraction effects in laser light; holography and other applications of laser light. W

372-254 Earth Physics 2 Cr.

Physical processes involved in rock formation, mountain building, erosional landscapes, plate tectonics, earthquakes and geologic dating. F

372-255 Meteorology 2 Cr.

Physical processes that determine properties of the Earth's atmosphere: precipitation, atmospheric circulation, weather, climate and human influence on the atmosphere in the framework of physics. F-W

372-261 Science of High Fidelity and Music 2 Cr.

Application of principles of physics to musical sounds, musical instruments, and the production and high fidelity reproduction of music. F

372-281 University Physics I 5 Cr.

Calculus-based general physics course: mechanics and thermodynamics with laboratory. Special course fee. Prerequisites: 355-154 or 355-157 or math pretest. W

372-282 University Physics II 5 Cr.

Calculus-based general physics course: electricity, sound, light, and selected topics in modern physics with laboratory. Special course fee. Prerequisite: 372-281. F

372-299 Independent Study 1-3 Cr. F-W-S**372-325 Strength of Materials 3 Cr.**

Fundamental theory of strength of materials. Analysis of tension, compression, shear, biaxial tension and compression, torsion, stresses and deflection of beams. Prerequisites: 372-221 and 355-153 or 355-156. F-W-S

372-349 Cooperative Education Program in Liberal Studies 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: consent of instructor or department chair. F-W-S

372-355 Optoelectronics 3 Cr.

Devices that utilize principles of electronics for the production or detection of light. Optical communication systems will also be considered. Prerequisites: 372-223, 110-240 or 110-244. W

372-380 Electromagnetic Fields 3 Cr.

Development and application of the theory of electromagnetic fields; analysis of the electromagnetic properties of materials and Maxwell's equations. Prerequisites: 372-282 or 372-242; 355-255. F

372-399 Independent Study 1-3 Cr. F-W-S**372-449 Cooperative Education Program in Liberal Studies 2-8 Cr.**

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: consent of instructor or department chair. F-W-S

372-467 Mathematical Physics 3 Cr.

Methods of solving boundary value problems; Fourier series and integrals; and orthogonal functions. Prerequisites: 355-255 and 372-537. F

372-499 Independent Study 1-3 Cr. F-W-S**372-518 Microprocessors and Applications 3 Cr.**

Equipment, interfacing and programming for microprocessor systems. Prerequisite: ten credits in lab-based physics or electronics and two credits in computer programming. F-W

372-519 Advanced Microprocessor Laboratory 3 Cr.

Advanced project: design, construction, and trouble-shooting of a functioning microprocessor system. Prerequisite: 372-518.

372-527 Solid State Physics 3 Cr.

Crystalline structure, lattice vibration and energy states, Brillouin zones, electrons in metals, semi-conductors, and dielectric and magnetic properties of solids. Prerequisites: 372-282 or 372-242 and 355-157 or 355-154. W

372-529 Atomic and Nuclear Physics 3 Cr.

Elements of atomic and nuclear physics. Prerequisites: 372-223 and 355-153. F

372-531 Statics 3 Cr.

Essential elements of statics: simple force system, theory and application of non-concurrent forces, couples, friction, non-coplanar forces, trusses and other structures. Prerequisites: 354-141, 355-153 and 372-221. F

372-533 Dynamics 3 Cr.

Essential elements of dynamics: rectilinear, angular and harmonic motions; forces producing motion, work, energy, acceleration, impulse and momentum. Prerequisite: 372-531. W

372-535 Optics 3 Cr.

Optics with emphasis on the wave nature of light: interference diffraction, polarization, and coherence; their applications in holography. Prerequisites: 372-223 and one year of calculus. W

372-599 Independent Study 1-3 Cr. F-W-S**Political Science****375-199 Independent Study 1-3 Cr. F-W-S****375-210 Government 3 Cr.**

Functioning of governmental units in the United States. Political principles, processes, problems; constitutional principles. Comparison of selected foreign governments. F-W-S

375-220 State and Local Government 3 Cr.

State and local governments within the U.S. federal system. Recommended: 375-210.

375-249 Cooperative Education Program in Liberal Studies 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: consent of instructor or department chair. F-W-S

375-260 Problems of U.S. Foreign Policy 3 Cr.

Analysis of U.S. foreign policy objectives and decision making; problems of national defense, Third World relationships, economic and resource policies, Presidential/Congressional authority, intelligence operations and public opinion.

375-299 Independent Study 1-3 Cr. F-W-S**375-310 Political Parties and Elections 3 Cr.**

Analysis of modern political parties. Nominating methods, campaigns, elections. Practical politics in legislative bodies; machines and bosses. Prerequisite: 375-210. F

375-340 International Relations 3 Cr.

World survey of conditions determining power relationships: balance of power, collective security and deterrence; role of international organizations in world politics. F

375-349 Cooperative Education Program in Liberal Studies 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: consent of instructor or department chair. F-W-S

375-399 Independent Study 1-3 Cr. F-W-S**375-449 Cooperative Education Program in Liberal Studies 2-8 Cr.**

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: consent of instructor or department chair. F-W-S

375-499 Independent Study 1-3 Cr. F-W-S**375-510 Public Policy Analysis 3 Cr.**

Analysis of origins of public policy and policy-making process. Specific case studies of public policy. Prerequisite: 375-210 or consent of instructor. W

375-550 Politics and Technology 3 Cr.

Contemporary and future technological innovations; relationship between political institutions and promotion, regulation and impact of industry and technology in the United States and other selected countries. W

375-599 Independent Study 1-3 Cr. F-W-S**Sociology****387-110 Introductory Sociology 3 Cr.**

Social interaction in human groups; relationships between individual and group; basic institutions; social change and current trends. F-W-S

387-199 Independent Study 1-3 Cr. F-W-S**387-205 Introduction to Social Work 3 Cr.**

Social work as a profession; history and philosophy of social services; information for teachers, counselors and those interested in the field. Prerequisite: 387-110. F-W

387-215 Sociology of the Family 3 Cr.

The family as an institution; history, variations in other cultures, relationships to other institutions, interactions of members at various stages of life cycle. Prerequisite: 387-110.

387-225 Problems of American Society 3 Cr.

Sociological perspective on problems such as mental illness, sexual deviancy, organized crime, white collar crime, violence, bureaucracy, inequality, and consumption.

387-249 Cooperative Education Program in Liberal Studies 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: consent of instructor or department chair. F-W-S

387-250 Social Psychology 3 Cr.

Theory and application of social interaction; emphasis on communication. Prerequisite: 387-110. W

387-275 Sociology of Sex Roles 3 Cr.

Sociological analysis of social roles played by the sexes. Prerequisite: 387-110. F

387-299 Independent Study 1-3 Cr. F-W-S**387-349 Cooperative Education Program in Liberal Studies 2-8 Cr.**

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: consent of instructor or department chair. F-W-S

387-399 Independent Study 1-3 Cr. F-W-S**387-420 Child and Family Agencies 3 Cr.**

Social and legal status of children in American society; various social services designed to optimize child's growth and development; nature and needs of families; family service agencies. F-W

387-430 Social Casework Methods 3 Cr.

Dynamics of social casework: mobilizing individual capacities and community resources to promote adjustment between client and environment; social change. Prerequisite: 387-205. F-W

387-449 Cooperative Education Program in Liberal Studies 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: consent of instructor or department chair. F-W-S

387-499 Independent Study 1-3 Cr. F-W-S**387-515 Criminology 3 Cr.**

Sociological analysis of structure and function of criminal law, variables of criminal behavior and operation of criminal justice system. Prerequisite: 387-110. W

387-525 Sociology of Leisure 3 Cr.

Institutional approach to effects of leisure on social structure; values reflected in leisure; problems with increase in leisure resources. Prerequisite: 387-110. W

387-540 Sociology of Work 3 Cr.

Human behavior in various types of employment and occupations; trends in U.S. occupational structure. Prerequisite: 387-110. F

387-550 Sociology of Technology 3 Cr.

Relationships between technology and social structure with emphasis on future projections. Prerequisite: 387-110. W

387-560 Sociology of Juvenile Delinquency 3 Cr.

Definitions of and trends in deviant behavior among youth; research findings; efforts in prevention, control and treatment. Prerequisite: 387-110. F

387-599 Independent Study 1-3 Cr. F-W-S

Speech

391-100 Fundamentals of Speech 2 Cr.

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise. F-W-S

391-101 Forensics 1-2 Cr.

Training in speech through participation in intercollegiate forensics: oral interpretation and original and limited-preparation events. Repeatable for credit.

391-102 Forensics 1-2 Cr.

Training in speech through participation in intercollegiate forensics: oral interpretation and original and limited-preparation events. Repeatable for credit.

391-103 Forensics 1-2 Cr.

Training in speech through participation in intercollegiate forensics: oral interpretation and original and limited-preparation events. Repeatable for credit.

391-104 Forensics 1-2 Cr.

Training in speech through participation in intercollegiate forensics; experience in forensics administration. Repeatable for credit.

391-120 Radio Practicum – Program Participation 1 Cr.

Program participation at a radio station. Repeatable for credit. F-W-S

391-121 Radio Practicum – Advanced Program Participation 1 Cr.

Advanced program participation at university radio station WVSS. F-W-S

391-122 Radio Practicum – Program Production 1 Cr.

Participation in program production at university radio station WVSS. F-W-S

391-123 Radio Practicum – Engineering 1 Cr.

Participation as recording, maintenance and/or repair engineer at university radio station WVSS. F-W-S

391-124 Radio Practicum – News/Sports 1 Cr.

Participation in news/sports programs at university radio station WVSS. F-W-S

391-125 Radio Practicum – Management 1 Cr.

Participation in one of 12 management positions at university radio station WVSS. F-W-S

391-131 Theater Practicum .5-1.0 Cr.

Participation in acting, stagecraft, lights, sound, makeup, costumes, properties and business in university theater productions. Repeatable for credit. F-W

391-199 Independent Study 1-3 Cr. F-W-S

391-200 Persuasive Speaking 2 Cr.

Advanced techniques of speaking; develop skill in audience analysis, speech composition and delivery of various types of speeches; recognize techniques used daily toward individuals and groups. Prerequisite: 391-100. F-W-S

391-202 Oral Interpretation 2 Cr.

Individual and group activities to develop skill in the oral performance of literature; projects in analysis and delivery of literature. Consideration of individual problems. Prerequisite: 391-100.

391-204 Techniques of Group Leadership 2 Cr.

Techniques for presiding at meetings through use of parliamentary law; persuasion as means of motivating and guiding behavior of others. Prerequisite: 391-100. W

391-206 Discussion 2 Cr.

Principles and techniques of discussion; leading and participating in symposium, panel, roundtable and other discussion forms. Prerequisite: 391-100. F-W-S

391-208 Theory of Communication 3 Cr.

How people communicate with each other; interpersonal, social, technical and business communication, monographs of various communication theorists. Prerequisite: 391-100. F-W

391-210 Interpersonal Speech Communication 1-2 Cr.

Basic aspects of non-structured, informal speech communication; expression of feelings and intentions and processing of relationships. Prerequisite: 391-100. F-W-S

391-232 Introduction to the Theater 3 Cr.

Development of theater arts from ancient times to present; play styles, production methods and audience appreciation; representative plays. F-W

391-236 Listening 2 Cr.

Theoretical analysis and practical application of listening concepts. Emphasis on assessment of individual listening skills and methods of improving personal listening techniques used in occupational and personal relationships. Prerequisite: 391-100.

391-244 Radio Programming and Production 3 Cr.

Planning, writing and producing various types of on-the-air experiences. Programs may be broadcast from university radio station. Prerequisite: 391-100. F-W

391-249 Cooperative Education Program in Liberal Studies 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: consent of instructor or department chair. F-W-S

391-299 Independent Study 1-3 Cr. F-W-S

391-310 Introduction to Speech Correction 2 Cr.

Nature and causes of and therapeutic methods for remediating speech and language disorders. Prerequisite: 391-100. W

391-334 Contemporary Theater 2 Cr.

Analysis of selected plays; structure, dramatic content and production methods. Prerequisite: 391-100. W

391-336 Stagecraft and Scene Design 2 Cr.

Technical problems in producing plays; set design; constructing, painting and handling scenery; stage lighting, makeup, costuming, sound and visual effects, organization of production staff. Prerequisite: 391-100. W

391-338 Play Production 2 Cr.

Directing and acting techniques in play production; selecting, rehearsing and producing scenes for class. Prerequisite: 391-100. F

391-349 Cooperative Education Program in Liberal Studies 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: consent of instructor or department chair. F-W-S

391-399 Independent Study 1-3 Cr. F-W-S

391-449 Cooperative Education Program in Liberal Studies 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Prerequisite: consent of instructor or department chair. F-W-S

391-475 Direction of Speech Activities 2 Cr.

Organization and administration of forensics programs and tournaments; coaching and judging of individual speaking events and debate. Prerequisite: 391-100.

391-499 Independent Study 1-3 Cr. F-W-S

391-508 Speech Skills for Business and Industry 2 Cr.

Technical speaking; projects in application of speech skills and activities in business and industry. Prerequisites: 391-100 and junior standing. F-W-S

391-512 Speech Skills for Educators 2 Cr.

Application of leadership techniques and speech skills in classroom and educational activities; two-way communication as aspect of classroom climate. Prerequisites: 391-100 and junior standing. F-W-S

391-514 Interviewing 1 Cr.

Principles and techniques for interviewee in employment interviews. Prerequisite: 391-100. F-W

391-554 Television Programming and Performance 3 Cr.

Planning, writing and performing instructional, public service, special feature or dramatic television programs. Prerequisites: 391-100 and junior standing or consent of instructor. F-W

391-599 Independent Study 1-3 Cr. F-W-S

Counseling

413-199 Independent Study 1-3 Cr. F-W-S

413-299 Independent Study 1-3 Cr. F-W-S

413-399 Independent Study 1-3 Cr. F-W-S

413-405 Peer Counseling 3 Cr.

Laboratory experience will train class participants to be peer counselors and trainees for peer groups that counsel among themselves using skills in listening, giving support and providing alternatives through verbal and non-verbal interaction. F-W

413-444 Introduction to Group Processes 2 Cr.

Principles of group processes and the appropriateness of their application in various settings.

413-499 Independent Study 1-3 Cr. F-W-S

413-501 Introduction to Guidance 2 Cr.

Policies and practices of organized guidance programs in educational settings; historical, philosophical and cultural bases for guidance services; guidance techniques for teachers; cooperative efforts of teachers, parents and counselors. F-W-S

413-510 Early Childhood Assessment 3 Cr.

Theory and techniques of assessing child development (birth through 8 years) in cognitive, psychomotor and socioemotional areas.

413-571 The Psychology of Marriage and the Family 2 Cr.

A study of the interpersonal relations involved in dating, mating, and family collaboration with growing awareness of patterns for self-integration. F-W

413-599 Independent Study 1-3 Cr. F-W-S

413-600A Workshop: Counseling/Psychological Services 1-3 Cr.

Current specialized topics studied through experiential activities. Repeatable for credit. F-S

413-629 Guidance in the Elementary School 2 Cr.

Nature and conditions of guidance in elementary schools; curricular and non-curricular guidance techniques, referrals, parent counseling; guidance principles and practices applied to elementary school child. W-S

413-634 Technical/Vocational Education Student 2 Cr.

Characteristics of vocational/technical student affecting social, physical, emotional and intellectual development in adolescent-to-young-adult transition; implications for guidance, counseling and vocational education. F-W

413-647 Behavior Problems of Children 2 Cr.

Psychological, social and environmental factors contributing to developing child's behavior; cause and treatment of behavioral disorders in children 3 through 12; methods of observing, diagnosing, documenting and interpreting; underlying behavioral dynamics of problem children. W-S

413-648 Learning Disabilities in Young Children 2 Cr.

Early recognition through observation and use of screening instruments; general and specific developmental delays in the young child; programming to maximize readiness for academic learning.

413-650 Behavior Problems of Adolescents 2 Cr.

Behavior problems of contemporary American adolescents; identification, etiology, intervention and prevention; guidance techniques and processes for teachers, counselors, school psychologists, social service and child care workers, and parents.

413-666 Alcoholism and Family Systems Intervention 2 Cr.

The role of alcoholism in the family and how to intervene therapeutically.

413-675 Counseling Theory 2 Cr.

Theoretical approaches to counseling; psychoanalytic adaptations, behaviorism, trait-factor, client-centered and others; nature of man, underlying personality theory, goals of counseling, role of counselor and illustrative practical applications in each approach; develop beginning personal theory of counseling. Prerequisite: 413-501. F-W-S

413-694 Counseling Older Persons 2-3 Cr.

Training service providers in counseling skills and gerontology through discussion, observation and supervised counseling experiences.

413-699 Independent Study 1-3 Cr. F-W-S

Education

421-199 Independent Study 1-3 Cr. F-W-S

421-205 Human Relations for the Helping Professions 2 Cr.

An experiential seminar aimed at the improvement of human interaction and the human condition through the development of communication and behavioral skills.

421-280 Reading Improvement 1-2 Cr.

Skill instruction in reading study skills. Application of skills to student's textbooks and materials. F-W-S

421-299 Independent Study 1-3 Cr. F-W-S

421-303 Educational Psychology 2 Cr.

Introduction to the psychological aspects of the educative processes. Emphasis on application of basic psychological principles to teaching. Focus on learner, learning process, and the teacher as an agent for change. Prerequisite: 479-110. F-W-S

421-305 Teaching Practicum 2 Cr.

Practical experience in developing the prospective teacher's ability in specific well defined teaching skills. Prerequisite: 421-205. F-W-S

421-310 Field Experience - Tutoring 1 Cr.

Supervised one-on-one or small group teaching experience in a school or other educational setting in response to the special needs of students with learning difficulties. Emphasis is on precision teaching, individualized instruction, and alternative strategies. Prerequisite: 421-682 or consent of instructor. F-W-S

421-311 Field Experience - Mentoring 1 Cr.

Supervised one-on-one or small group teaching experience in a school or other educational setting in response to the special needs of high ability students. Emphasis is on critical thinking, problem-solving skills, and creative expression. Prerequisite: 431-595 or consent of instructor. F-W-S

421-326 Foundations of Education 2 Cr.

Historical background, status, trends, and organization of U.S. education; understandings vital to students before they begin student teaching. Includes professional roles, expectations, rewards and frustrations, resources, control, finance and philosophy. F-W-S

421-399 Independent Study 1-3 Cr. F-W-S**421-405 Student Teaching 8 Cr.**

Experience in applying the theories and skills involved in teaching and learning under the guidance of a master teacher in selected off-campus schools. F-W

421-406 Intern Teaching 8 Cr.

An alternate method of obtaining student teaching experience. Teacher interns receive a license to teach and salaried appointments in cooperating school systems for one full semester. F-W

421-408 Introduction to Teaching Strategies 4 Cr.

Introduction to general curriculum development, instructional methodology, and evaluation. F-S

421-422 Principles of Secondary Education 2 Cr.

The evolution, status, and trends of secondary education. Needs of our democratic society; philosophy, organizational problems, curriculum development, and the responsibilities of the individual teacher as related to students before they begin student teaching. Prerequisite: 479-110.

421-438 Curriculum Development 2 Cr.

Intensive study and practice of the procedures involved in course construction culminating in a course of study appropriate to the student's major or minor.

421-440 Management of the Learning Environment 2 Cr.

Alternative practices and procedures involved in the effective management of the learning environment. Prerequisites: 421-205 and 421-538.

421-495 Personal Learning Experience 2 Cr.

An experimental program for juniors and seniors. By permission of program directors. Each student selects an area of life which involves ethical decision and investigates that decision-making process. The group enrolled for this experience meets with the directors twice a week for direction, discussion, and criticism. Self-evaluation paper at the close of the course, which is submitted to the critique of the directors and other members of the learning experience.

421-299 Independent Study 1-3 Cr. F-W-S**421-502 Global Perspectives for Educators 3 Cr.**

Primarily for education students interested in introducing global perspectives into the classroom. The methodology, materials and instructional strategies necessary for effective implementation of global education in schools and individual classrooms will be covered. F-W

421-522 Secondary Education Seminar 2 Cr.

For post-student teaching, discussion of the evaluation, status, and trends of secondary education. The experiences of the students' teaching related to the needs of our democratic society; philosophy, organization, problems, curriculum development, and the responsibilities of the individual teacher.

421-536 Working With the Culturally Different 2 Cr.

Intensive study and practical experience in working with the culturally different. Prerequisite: 421-205. F-W-S

421-570 Elements of Instruction 1-2 Cr.

Techniques in the Madeline Hunter method of researched topics of instruction. Teaching to an objective, selecting objectives at the correct level of difficulty, monitor and adjust, and principles of learning including motivation, retention, transfer, set, active participation, reinforcement and closure.

421-576 Field Experience – Cross Cultural Experience 1 Cr.

Supervised one-on-one or small group experience in a school or other setting in response to a special academic or social need with representatives of one or more of the following designated ethnic minority groups – African-Americans, Asian-Americans, Pacific Islander-Americans, American Indians and Hispanic-Americans; and various socio-economic groups, specifically the low-income. Prerequisite: 421-536 or consent of instructor. F-W-S

421-582 Secondary Reading and Language Development 2 Cr.

Effective utilization of reading and language development methodologies in secondary content area classrooms. Prerequisite: 421-303. F-W-S

421-599 Independent Study 1-3 Cr. F-W-S**421-600 Workshop – Special Topics in Education 1-3 Cr.**

Current specialized topics studied through experimental activities. Prerequisite: consent of instructor. Repeatable for credit.

421-615 Educating At-Risk Students 2 Cr.

Characteristics, needs, assessment procedures, alternative curricula and methods, intervention, and management strategies for at-risk students.

421-641 Education Evaluation 2 Cr.

Testing, the interpretation of tests by means of simple statistical procedures; methods of evaluating educational programs.

421-683 Seminar in Reading Methods for Secondary Schools 1 Cr.

Selection, research and presentation for discussion of topics related to reading in secondary schools. F-W-S

421-685 Psychology of Adult Education 2 Cr.

A global view of the philosophy, purpose and practice in various programs of adult education, and an examination of the characteristics of the adult learner plus a profile of his ego, intelligence, and development.

421-690 Learning Style Theory and Application 2 Cr.

An introduction to the educational sciences, including cognitive mapping. Emphasis is placed on the practical application of the educational sciences in an educational setting.

421-699 Independent Study 1-3 Cr. F-W-S**Special Education****431-199 Independent Study 1-3 Cr. F-W-S****431-299 Independent Study 1-3 Cr. F-W-S****431-399 Independent Study 1-3 Cr. F-W-S****431-480 Student Teaching With Handicapped Youth 8 Cr.**

Directed teaching and community experiences in selected off-campus schools with normal and handicapped adolescents. Prerequisites: 431-661 and 431-662, 2.5 grade point average in major courses, "C" or better in English, and speech health certification. F-W

431-481 Student Teaching with Disabled Youth 16 Cr.

Directed teaching and community experiences in selected off-campus schools with normal and handicapped adolescents. Prerequisites: 431-518, 431-526, 431-662. F-W

431-499 Independent Study 1-3 Cr. F-W-S**431-501 Learning Disabilities 3 Cr.**

Identification, remediation and evaluation of learning disabled; intervention techniques used with adolescents and adults. W

431-516 Psychology of the Exceptional Child 2-3 Cr.

History and treatment of exceptional individuals; characteristics and development of children who deviate from the norm: learning disabled, gifted, mentally retarded, socially and emotionally disturbed, abused, speech and language impaired, and those with visual, hearing, orthopedic and chronic health problems. F-W

431-518 Clinical Experience with the Handicapped 2 Cr.

Tutor a handicapped individual in an on-campus or educational setting. To be taken concurrently with 431-561. Repeatable for credit. F-W-S

431-522 Teaching Basic Skills to the Mentally Retarded 3 Cr.

Curriculum and instructional techniques for developing basic academic and functional living skills for mild/moderate mentally retarded youth. Prerequisites: 431-585, 421-304 or consent of instructor. W

431-524 Career and Vocational Education for the Retarded 3 Cr.

Curriculum and instruction for mentally retarded learners in prevocational career, and vocational education stressing interdisciplinary cooperation. Prerequisites: 431-585, 421-304 or consent of instructor. F

431-526 Practicum in Special Education 2 Cr.

Off-campus work and study in educational settings with handicapped youth. To be taken concurrently with 431-661. F

431-528 Assessment for Individual Educational Planning 2 Cr.

Diagnosing behavior and learning problems of the special needs learner. Prepare individual educational plans. F-W-S

431-581 Legal Rights of Handicapped 2 Cr.

Current litigation, civil commitment, criminal proceedings, federal and state statutes, and civil rights regarding the handicapped student and adult. Prerequisite: 431-532. W

431-585 Introduction to Mental Retardation 2 Cr.

Introduction to etiology of mental retardation; psychological, educational, social and vocational aspects; adjustment techniques used in working with mentally retarded persons. F

431-595 The Gifted Student 2 Cr.

Characteristics of gifted, creative and talented individuals; identification in educational settings; social, psychological and educational aspects of providing for the gifted throughout school years. S

431-599 Independent Study 1-3 Cr. F-W-S**431-600 Workshop: Topics in Special Education 1-3 Cr.**

Current specialized topics studied through experiential activities. Prerequisite: consent of instructor. F-W-S

431-630 Mainstreaming Special Students 3 Cr.

Learning characteristics and behavior of mentally retarded, learning disabled, socially and emotionally disturbed, hearing and sight impaired, orthopedically and chronic health impaired, speech and language impaired students; services mandated by PL94-142, M-team process, and individualized educational plan; instruction of handicapped within regular classes. F-W-S

431-662 Classroom Management Techniques 3 Cr.

Techniques for motivating handicapped youth, individual and group discipline, behavior modification, educational organization, evaluation, and communication to enhance learning. W

431-699 Independent Study 1-3 Cr. F-W-S

Vocational Rehabilitation

459-X98 Vocational Rehabilitation Field Experience 1-2 Cr.

Off-campus work and study in an approved position to better understand the challenges and potentials of various rehabilitation type careers. Prerequisite: 459-101. F-W-S

459-101 Introduction to Rehabilitation 3 Cr.

An introduction to serving handicapped and disadvantaged persons. Philosophy, history, legislation, concepts and processes, and careers in rehabilitation services. Special course fee. F-W

459-102 Community Resources 3 Cr.

Role of community resources in rehabilitation. Prerequisite: 459-101. F-W

459-199 Independent Study 1-3 Cr. F-W-S**459-205 Rehabilitation Practicum 4 Cr.**

Direct experience working with handicapped clients and members of the helping professions in rehabilitation settings. Prerequisite: 459-101 and 459-102. F-W

459-230 Psycho-social Aspects of Disabilities 3 Cr.

Personal, interpersonal and environmental forces that facilitate or impede adjustment and participation in the life of individuals with disabling conditions. Examine how disability as a value loss is perceived and reacted to. Prerequisites: 459-101 and/or concurrent with 308-220. F-W

459-299 Independent Study 1-3 Cr. F-W-S**459-310 Vocational Evaluation 4 Cr.**

Methods of vocational evaluation using work samples, psychometric tests and situational assessment. Use of occupational information resources in planning, decision making, staffing and report writing. Prerequisite: 459-101 and 459-102. F-W

459-325 Rehabilitation of the Sensory Disabled 3 Cr.

Introduction to the deaf, blind and deaf/blind; methods and techniques of sensory disability rehabilitation. W

459-399 Independent Study 1-3 Cr. F-W-S**459-401 Principles and Techniques of Case Load Management 2 Cr.**

Principles and techniques of implementing case load management in service of clients of state vocational rehabilitation counseling agencies or rehabilitation facilities. Prerequisite: 459-230 and 308-220. F-W

459-402 Rehabilitation Facilities Operation 3 Cr.

Principles and practices in rehabilitation facilities operation; knowledge of laws, volunteer programs, budgeting practices and determination of program effectiveness. W

459-410 Placement Processes With the Handicapped 3 Cr.

Theory and methods of placement techniques for handicapped individuals. Prerequisite: 459-230. F-W

459-413 Vocational Evaluation Seminar 2 Cr.

Methods of determining community resources that meet training and job placement needs of rehabilitation client; analyzing jobs in order to develop tools for evaluating rehabilitation client's potential for local training and job placement. Prerequisites: 459-310 and 459-610.

459-480 Advanced Rehabilitation Practicum 2-6 Cr.

Advanced applied experience in service delivery to the disabled in varied agency/service settings related to student's designated rehabilitation concentration. Prerequisite: 459-205. W-S

459-499 Independent Study 1-3 Cr. F-W-S**459-500 Special Topics in Rehabilitation 1-2 Cr.**

Special topics not available through regular courses. Prerequisite: consent of instructor. Repeatable for credit. F-W-S

459-505 Sign Language I 3 Cr.

Basic course in manual communication with the deaf. Intensive practice in expressive and receptive communication. F

459-506 Sign Language II 3 Cr.

Intermediate course in manual communication with the deaf; American Sign Language; increase sign vocabulary and communication speed. Prerequisite: 459-505. W

459-509 Introduction to Biofeedback 3 Cr.

Theory and applications of biofeedback in psychology, rehabilitation, medicine and education; in-depth review of the field; appropriate uses of biofeedback as a referral possibility; preparation for supervised clinical biofeedback experience. Prerequisites: 308-132 and 479-110. F

459-510 Clinical Biofeedback Laboratory 3 Cr.

Development of clinical skills and familiarization with laboratory monitoring devices and stress management techniques, as they apply to the training of clients in a clinical biofeedback setting. The course also reviews current clinical research, future directions for the field, and ethical considerations. Prerequisites: 308-220, 413-405 and 459-509. W

459-520 Rehabilitation of the Chemically Dependent 3 Cr.

Background in the field of chemical dependency with emphasis on the rehabilitation aspects of the chemically dependent and knowledge of the historical and sociological implications of drug usage. F

459-525 Rehabilitation of the Public Offender 3 Cr.

The field of corrections as it concerns the individual and criminal justice institutions; basic legal terms, laws, types of institutions and treatment modalities; treatment effectiveness and trends in criminal justice field. W

459-550 Independent Living 2 Cr.

An overview of independent living programs in this country including evolution, goals, methods of service delivery, and program management of independent living programs. W

459-555 Rehabilitation of the Older Disabled Worker 2 Cr.

Develop awareness and understanding of older disabled workers with a focus on implementing rehabilitation planning that enables continued participation in the workforce or reinsertion into it following disability. W

459-558 Support System Networking 2 Cr.

Services, eligibility and appeals process of agencies and community organizations that create formal support systems for persons with special needs; the role of interagency collaboration, informal networks, and coalitions that create advocacy channels. F

459-560 Technological Applications: Rehabilitation Services 2 Cr.

Applications of technology to assist persons with disabilities in vocational and independent living situations using rehabilitation engineering principles/processes. Review of commercially available aids and assistive devices, and alternative control/interfacing procedures. Introduction to problem solving/design process as related to persons with disabilities. F-W

459-565 Laboratory in Rehabilitation Technology 2 Cr.

Experience utilizing technological aids/devices developed for persons with disabilities. Modify/adapt equipment to meet specific functional requirements. Construct switch/control mechanisms for equipment. Develop prototype solutions to vocational and independent living problems. Prerequisites: 459-560; 170-202 or equivalent, or consent of instructor. F-W

459-585 Rehabilitation of the Mentally Retarded 2 Cr.

Background in mental retardation; vocational evaluation, adult education and adjustment techniques used with mentally retarded adults. Special course fee. F-W

459-587 Handicapped Workers in Business and Industry 3 Cr.

Orientation to handicapped workers in business and industry. Focus is upon the elimination of attitudinal and environmental barriers as they pertain to hiring, productivity, and retention of handicapped workers. Emphasis upon governmental requirements for conformance, linkage between business and rehabilitation, community resources, and staff development. Prerequisite: junior, senior or graduate standing. W

459-601 Rehabilitation in the Private Sector 2 Cr.

Introduction to the private-for-profit sector of rehabilitation. Orientation to the contractual services offered by practitioners. Industrial in-plant models will be contrasted to other models for providing rehabilitation services to disabled workers. F

459-605 Microcomputer Application for the Handicapped 2 Cr.

Use of microcomputer hardware and software to facilitate the development of functional skills of the handicapped. F-W-S

459-610 Psychological Testing With Handicapped People 2 Cr.

Introduction to psychometric tests; administration, interpretation/scoring and application to handicapped populations. Prerequisite: 459-230. F-W-S

459-661 Forensics for the Rehabilitation Professional 2 Cr.

Orientation to terminology and practices associated with private sector rehabilitation. Materials specific to working with insurance/litigation cases. Prerequisite: 308-132. W

459-670 Work Adjustment Services 2-3 Cr.

Principles and procedures of adjustment services. Emphasis upon the change and improvement of behavior. Supervised practical experience in interviewing, behavior observation, individual work adjustment planning, lesson plan development and report writing. Prerequisite: 459-101 or graduate standing. F-W-S

459-680 Principles of Rehabilitation Counseling 3 Cr.

Theory and application of counseling processes in rehabilitation settings. Prerequisite: 479-561 or 431-516. F-W-S

459-682 Sexuality and the Disabled 2 Cr.

Programs in sexuality, terms and techniques, exploration of personal biases and development of techniques for dealing with sexuality of disabled individuals. F

459-685 Group Processes in Rehabilitation Settings 2 Cr.

Theory and application of group processes in rehabilitation settings; direct experience as member and facilitator of a group. Prerequisite: 459-680. F

459-688 Advanced Job Placement 2 Cr.

Job placement methods for individuals with handicaps. Development of Employer Account Systems and the marketing of job placement services. Use of Job Readiness Scales, development of individualized placement plans, and Job Seeking Skills training programs. Current literature and research in job placement will be assigned and discussed. Prerequisite: 459-410 or consent of instructor. W

Psychology

479-X98 Psychology Field Experience 2 Cr.

Off-campus work and study in an approved position to better understand the major concepts of psychology as they are applied to help solve and prevent human relations type problems.

479-100 Psychology Seminar I: Foundations 1 Cr.

An orientation activity for all students in their initial semester as a psychology program student. Information concerning psychology as a discipline, applied profession, and liberal arts program is presented. Career and graduate training opportunities are reviewed.

479-110 General Psychology 3 Cr.

An introduction to psychology as a discipline and applied science. Emphasis is placed on scientific methodology as it is applied to behavior, learning, memory, perception, motivation, development, individual differences, mental health, the physiological basis for behavior, and on the application of psychological principles to human experience. F-W-S

479-120 Psychology - Its History and Systems 3 Cr.

Comprehensive survey of history of psychology and basic systems that have developed into modern American psychology. Treatment is given both to philosophic development of psychology and to evolution of psychology as a behavioral science. Emphasis on development of psychology in the 19th and 20th centuries in western Europe and the U.S. with the schools of thought: Structuralism, Functionalism, Behaviorism, Gestalt Psychology, and Dynamic Psychology receiving primary consideration. State of modern psychology is considered; contributions of contemporary psychologists examined. F-W

479-150 Humanistic Psychology 3 Cr.

The course will address the question of "Who am I?" from a contemporary horizon where concerns of psychology intersect biology, philosophy, sociology, anthropology, history and religion. From there we move toward possible answers to man's perennial questions about himself and his future through readings and discussions of key works. The overall objective of the course will be to help the student construct, for himself, a viable answer to the classical question, "Why am I?". F-W-S

479-190 Psychological Methods I 3 Cr.

This course introduces the student to research in the behavioral sciences. Observational, clinical, historical, correlational, descriptive, and experimental techniques are introduced and evaluated. Through the study of contemporary psychological research, the student gains evaluative principles which will enable him to be an intelligent research consumer. F-W

479-199 Independent Study 1-3 Cr. F-W-S**479-251 Child Psychology 3 Cr.**

A study of the total psychological development of children emphasizing age groups spanning the preschool and prepubescent child and methods for scientific measurement and understanding of child behavior. Prerequisite: 479-110. F-W-S

479-281 Environmental Psychology 3 Cr.

Psychological aspects of person/environment interaction. People impacts on environment, and environmental impacts on people. Aspects of recreational environment, population density and stress factors. Prerequisite: 308-122 or 308-150.

479-299 Independent Study 1-3 Cr. F-W-S**479-300 Psychology Seminar II 1 Cr.**

The second level of seminar for psychology program students. Activities center on sharing knowledge and experience among faculty and students and on an assessment of the development of program level competencies by students. Prerequisite: 479-100. F-W-S

479-390 Experimental Psychology 3 Cr.

This course serves as an introduction to the methodology and content of experimental psychology. This course is built around the concept of behavioral objectives which are used for guiding the learning process, and evaluating that process. Upon successful completion of this course, the student will be capable of formulating a psychological problem, designing an experiment to investigate this problem, planning all aspects of the experimental process, conducting a well run experiment, analyzing and interpreting results and evaluating the experiment. Prerequisite: 354-130. F-W

479-399 Independent Study 1-3 Cr. F-W-S**479-400 Psychology Seminar III 1 Cr.**

The final seminar for psychology program students. Attention is given to the transition to graduate school and/or employment by students. Students develop and conduct an original investigation and report their findings in a formal research paper as a demonstration of their achievement of program competencies. Prerequisite: 479-300. F-W-S

479-451 Children's Learning 3 Cr.

Psychological study of basic learning processes in infants and young children. How and why learning occurs and how the course of learning can be modified; discussed from theoretical, research, and practical orientations including simple behavioral responses, concepts and language. Prerequisites: 212-124 and 479-110. F

479-460 Personality and Mental Health 3 Cr.

An introduction to the areas of psychology which are concerned with the recognition of the positive principles of mental health and their application to human behavior. In addition, an examination is made of a variety of theories which are representative of the major views of leading thinkers on the subject of personality and personality development. F-W

479-483 Human Resource Development 2 Cr.

Foundation of human resource selection and development in the business and industrial setting. The subset of personnel management concerned with staffing, orientation, appraisal, development, counseling, and compensating employees constitute the major topics of study. Prerequisites: 479-110 or 479-150 and 150-150. F-W-S

479-484 Introduction to Behavior Modification 2 Cr.

An introduction to the applied analysis of behavior. Emphasis is placed on the fundamentals of behavior modification, models of behavior control, and applications in a variety of settings. Prerequisites: at least three psychology courses or consent of instructor. F-W

479-499 Independent Study 1-3 Cr. F-W-S**479-530 Psychology of Learning 3 Cr.**

A course designed to acquaint the student with the principles of learning drawn from experimental and theoretical psychology. These principles are demonstrated as they apply to animal and human learning. Modern viewpoints toward theories of learning are emphasized. F

479-535 Motivation and Emotion 3 Cr.

An experimentally oriented introduction to the fundamental principles of motivation and emotion. Prerequisites: 479-110, nine or more credit hours in psychology or consent of instructor. W

479-540 Psychology of Individual and Group Differences 3 Cr.

Nature and extent of differences in individuals and groups are studied. Intelligence, achievement, aptitudes, interests, attitudes, and general personality are the major differences included. Race, sex, nationality, social class and age in relation to individual differences are studied.

479-552 Adolescent Psychology 3 Cr.

The physical, emotional, social, moral, and intellectual development of secondary school youth. Prerequisite: 479-110. F-W-S

479-561 Abnormal Psychology 3 Cr.

A study of more serious mental disturbances. Emphasis on the growing importance of mental disorders and on their early detection and referral is studied. F-W-S

479-570 Assertive Training Procedures 2 Cr.

Training in interpersonal behavior and communications in which persons learn to defend their legitimate rights without violating the rights of others. F-W-S

479-571 Introduction to Health Psychology 3 Cr.

Principles of psychology applied to the promotion of health and wellness; prevention of disease, injury and premature death; psychological treatment of illness; improvement of health care; and formation of health policies. Prerequisite: consent of instructor (usually requires 10 credits in psychology). F

479-574 Psychology of Women 2 Cr.

The myths and stereotypes of early psychoanalytic view of women, critical issues and events of female experience, from prenatal through adulthood; meaning of sexuality, contemporary life styles, and the meaning of aging. Prerequisite: 479-110. F-W

479-579 Public Relations 2 Cr.

Introduction to public relations in industry and education including community relations, employee relations, customer relations, media relations, tools of public relations, two-way communications, and special publics. F-W-S

479-581 Industrial Psychology 2 Cr.

A survey of the application of psychological principles of man's vocational pursuit. Emphasis is on individual differences and group behaviors which are involved in personnel selection, human factors engineering, industrial safety, motivation, personnel training, and consumer behavior. Course material is based primarily upon the latest behavioral science research in the field of industrial psychology. Prerequisite: 479-110. F-W

479-582 Human Resource Management 3 Cr.

Organization and coordination of personnel practices and methods. Consideration given to communication, employment, orientation and training, working conditions, supervision, performance evaluation, collective bargaining, salary administration, health and recreation. F-W-S

479-599 Independent Study 1-3 Cr. F-W-S**479-601 Workshop – Special Topics in Psychology 1-3 Cr.**

Current specialized topics studied in a small group setting utilizing experimental activities. Prerequisite: consent of instructor. Repeatable for credit.

479-602 Position and Salary Evaluation 2 Cr.

The determination of wages and salaries for differing jobs and positions. Legal issues of equal pay for comparable worth. W

479-632 Perception 3 Cr.

This course serves as an introduction to human perception. The content of the course is structured around an information processing model, with the sensory and memory facilities considered as information systems. The student will analyze perceptual research, become familiar with classical and modern psychophysical techniques and conduct experimentation in human information processing. F

479-673 Psychology of Stress 2 Cr.

Nature of stress and stress-related diseases, stress in daily life, techniques for managing stress, and plans for reducing stress in personal and professional life. F-W-S

479-675 Right Brain 2 Cr.

The two hemispheres of the human brain. Exploration and experience in right hemisphere modes of consciousness, through techniques such as meditation, hypnosis, drawing, guided imagery and dreaming. W-S

479-679 Advanced Public Relations 2 Cr.

Practice in planning and directing specific public relations programs, using the case problem approach. Prerequisite: 479-579 or consent of instructor. W

479-690 Psychological Measurement 3 Cr.

An introduction to the assumptions, models and applications of measurement techniques in behavioral science. Test analysis, item analysis, reliability, and validity are extensively covered. The course also introduces the student to prediction and measurement of attitudes and opinions. W

479-699 Independent Study 1-3 Cr. F-W-S**School Psychology**

489-199 Independent Study 1-3 Cr. F-W-S

489-299 Independent Study 1-3 Cr. F-W-S

489-399 Independent Study 1-3 Cr. F-W-S

489-499 Independent Study 1-3 Cr. F-W-S

489-599 Independent Study 1-3 Cr. F-W-S

489-601 Brazelton Neonatal Behavioral Assessment 2 Cr.

Philosophy and technique of using the Brazelton Neonatal Behavioral Assessment Scale for evaluating infant personality and development. Prerequisite: consent of instructor.

489-699 Independent Study 1-3 Cr. F-W-S**Transdisciplinary**

500-100 Applied Student Leadership 2 Cr.

Applied leadership techniques in interpersonal communications and organizational dynamics developed through classroom experience and practice. F

500-477 International Studies 1-8 Cr.

Interinstitutional Credit Exchange. Students complete educational experiences at recognized/accredited international institutions. The course may be repeated in a given semester or in other semesters. Enrollment is by permission of the Director of International Programs. Prerequisites: good standing academically (i.e. 2.0 grade point average or more) and consent of the Director of International Studies.



CAMPUS MAP



Academic/Administrative Buildings

1. Student Health Center
2. Louis Smith Tainter House
3. Administration
4. Harvey Hall
5. Bowman Hall
6. University Services
7. Communications Center
8. Ray Hall
9. Communication Technologies
10. Fryklund Hall
11. Child and Family Study Center
12. Heating Plant
13. General Services
14. Vocational Rehabilitation Institute
15. Library Learning Center
16. Home Economics
17. Educational and Human Services
18. Memorial Student Center
19. Jarvis Hall-Technology and Science
20. Merle M. Price Commons
21. Applied Arts
22. Johnson Fieldhouse
23. Health and Physical Education
24. Burton E. Nelson Field

Residence Halls

- A. Wigen Hall
- B. Hovlid Hall
- C. Fleming Hall
- D. Jeter-Tainter-Callahan Halls
- E. North Hall - Housing Office
- F. Antrim-Froggat Hall
- G. Curran-Kranzusch-Tustison-Oetting Halls
- H. South Hall
- I. Hansen-Keith-Milnes-Chinnock Halls

